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Upper Guadalupe River Flood Protection Project

Strategic Implementation Plan

March 2003

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UPPER GUADALUPE RIVER FLOOD PROTECTION PROJECT

STRATEGIC IMPLEMENTATION PLAN

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Date: 3/21/03

Capital Program Services Division
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Santa Clara Valley Water District

MEMORANDUM

TO: Distribution

FROM: Dennis Cheong

SUBJECT: Strategic Implementation Plan
for the Upper Guadalupe River Project

DATE: April 2, 2003

I am pleased to provide you with a copy of the Strategic Implementation Plan (SIP) for the Upper Guadalupe River Flood Protection Project. This plan is a reference document for managers and staff to ensure that the project will be implemented consistent with Board's Governance Policies, the Corps of Engineer's requirements, and the Clean Safe Creek Program commitments.

The plan outlines several challenges to complete the project within a 15-year timeframe. They include:

- Corps' Funding Constraints
- Regulatory Agencies' Permitting Delay
- Lengthy Construction Schedule
- District's Funding Constraints

The plan also provides steps required to make progress and priorities of activities to be implemented. As each of the challenges changes, staff will review the plan and revise accordingly. The following staff contributed to the preparation of this plan: Ngoc Nguyen, Ted Ibarra, Bobbi Gee, and Laura Krutul.

Please let me know if you have questions or need additional information about this project.

Dennis Cheong
Senior Project Manager
Capital Program Services Division

Distribution:

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Executive Summary

Introduction

The Upper Guadalupe River Flood Protection Project Strategic Implementation Plan (SIP) outlines the District's plan to construct the Upper Guadalupe River Flood Protection Project within a 15-year timeframe and supports the District's commitment in the Measure B *Clean, Safe Creeks and Natural Flood Protection Program* to construct the project by 2016.

The Implementation Plan provides an overview of the project background, implementation guidelines, challenges, plan, schedule, and estimated project costs. The report provides management and staff with a general understanding of the challenging issues, steps required to make progress, and the priority of tasks and activities for project delivery.

Project Background

The Upper Guadalupe River Flood Protection Project is from Highway 101 to Interstate 880 and from Interstate 280 to Blossom Hill Road. See Figure 1 for Project Location and Vicinity Map.

The District initiated a flood control planning study in the late 1980s to address historical flooding issues. In October 1990, the District's Board of Directors approved a Feasibility Study Cost-Sharing Agreement with the U.S. Army Corps of Engineers (Corps). Based on the Corps January 1998 final feasibility report, the project is eligible for federal funding and subject to cost sharing. The Corps cost share is based on the National Economic Development (NED) Plan, i.e., greatest net economic benefits. The District's Board of Directors certified and adopted the Final Environmental Impact Report/Environmental Impact Study and Engineers Report and approved the project on August 15, 2001.

Even though the NED plan identified by the Corps was the 50-year flood protection plan, the District supports the plan that provides 100-year flood protection. Consequently, the District adopted the Bypass Channel alternative as the Locally Preferred Plan (LPP) and will therefore be responsible for 100 percent of the increment over and above the NED plan.

Because of environmental changes, the Corps is reviewing the findings of the 1998 Feasibility Study and reevaluating their efficacy and implementability. There is a possibility that this analysis would identify the 100-year flood protection plan as the NED plan. If the Corps extends their participation to the 100-year flood protection plan, this document will be revised accordingly.

Challenges

The District will face several challenges to complete the project within a 15-year time frame. They include:

- Adequate Federal funding for the project

- Acquisition of regulatory permits to meet the 15-year project construction schedule
- Reaching consensus on project design concept through the Guadalupe Watershed Integration Working Group
- Adequate District funding for the project

Implementation Plan

The construction of the Upper Guadalupe River Flood Protection Project as described in the SIP, supports the Governance Policies of the Board of Directors. District staff plans to construct the project according to the following priorities:

- Achieve a consensus on the project design from regulatory agencies in order to obtain permits necessary to complete the project in 15 years or less.
- Execute the Corps Project Cooperative Agreement in a timely manner, to facilitate federal and state funding for project construction.
- Obtain right-of –ways 12 months prior to each pertinent construction phase.
- Coordinate funding of project design and construction in a timely manner to minimize project delays and to follow a 15-year construction schedule for the 100-year plan.
- Construct the lower reaches first to gain the most flooding benefits.
- Start mitigation plantings as early as possible to minimize environmental impacts from future construction.
- Remove fish barriers as early as possible to provide fish access to the upper watershed

Estimated Construction Schedule

Reach A	3/2003	Reaches 6 & 8	7/2007	Reach 11	7/2012
Reach 10b	4/2004	Reaches 10C	7/2008	Canoas Creek	7/2013
Reach 12 & Fish Passage Modifications	7/2004	Reach 9	7/2009	Ross Creek	7/2014
Reach 7	7/2005	Reach 10A	7/2011		

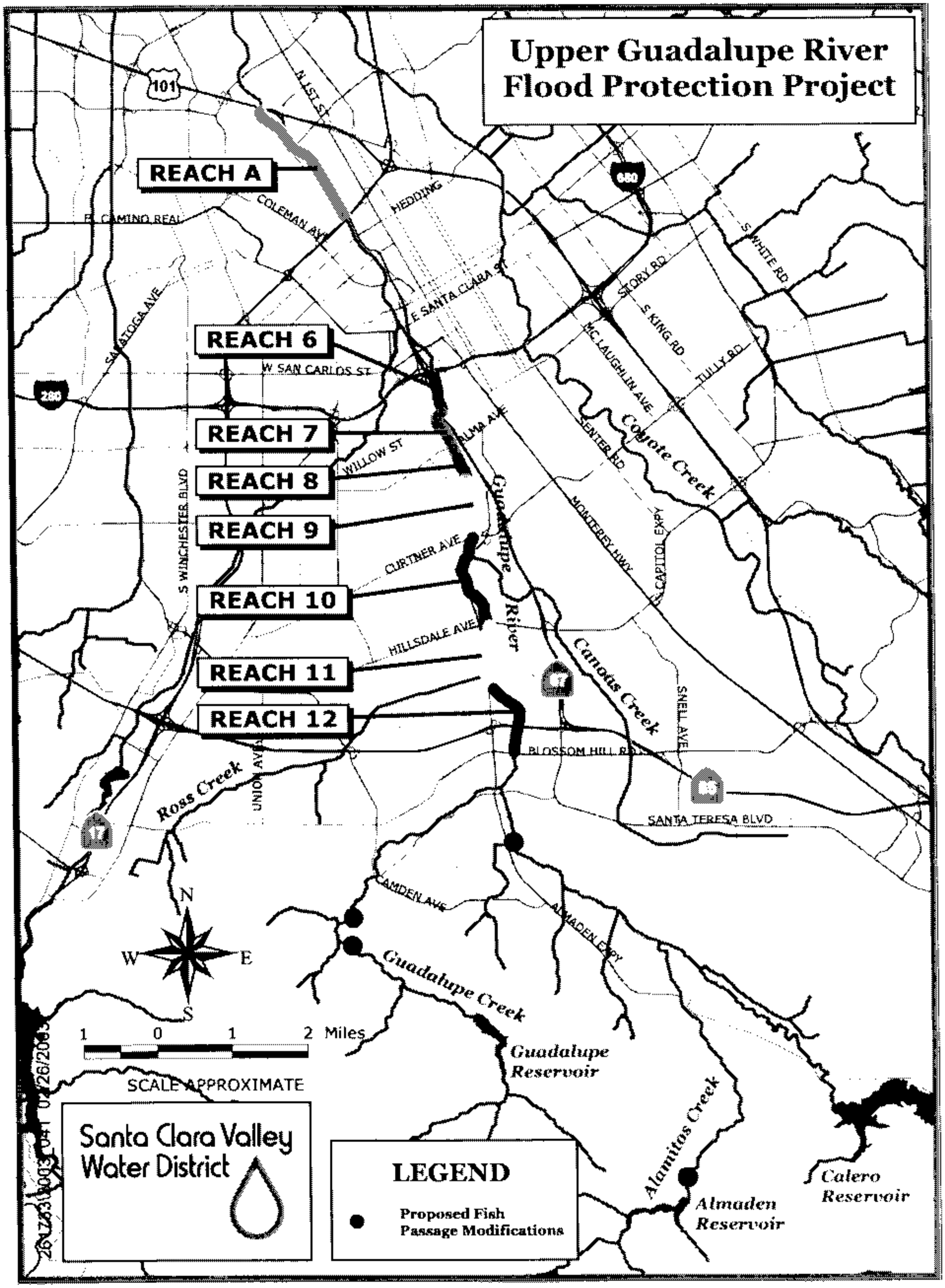
Estimated Project Costs

Of the estimated $137.6 million (2002 value) project cost, the Corps will fund between $40.2 to $52.4 million, depending upon whether the federal share is based on the 50-year or 100-year plan. The District will assume the remaining cost of $85.2 to $97.4 million. The Measure B funding for the project is approximately $72.7 million (2002 value)[1]. The State Subvention Program could provide up to $11.9 million for the project. Based on these funding sources, the District can build the project in 15 years.

---

[1] [1] The local project cost identified in the November 2000 voter-approved Clean, Safe Creeks and Natural Flood Protection Program was $70.8M. Based on the October 2002 San Francisco-Oakland-San Jose Consumer Price Index, the project cost is now $72.7M.

Figure 1


Upper Guadalupe River
Flood Protection Project
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85
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REACH A
REACH 6
REACH 7
REACH 8
REACH 9
REACH 10
REACH 11
REACH 12
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HEDDING
COLEMAN AVE
EL CAMINO REAL
E SANTA CLARA ST
SARATOGA AVE
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WILLOW ST
ALMA AVE
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CURTNER AVE
HILLSDALE AVE
BLOSSOM HILL RD
UNION AVE
SANTA TERESA BLVD
SNELL AVE
CAPITOL EXPY
MONTEREY HWY
SENTER RD
MC LAUGHLIN AVE
S KING RD
STORY RD
TULLY RD
S WHITE RD
CAMDEN AVE
ALMADEN EXPY
Guadalupe River
Coyote Creek
Canoas Creek
Ross Creek
Guadalupe Creek
Alamitos Creek
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Almaden Reservoir
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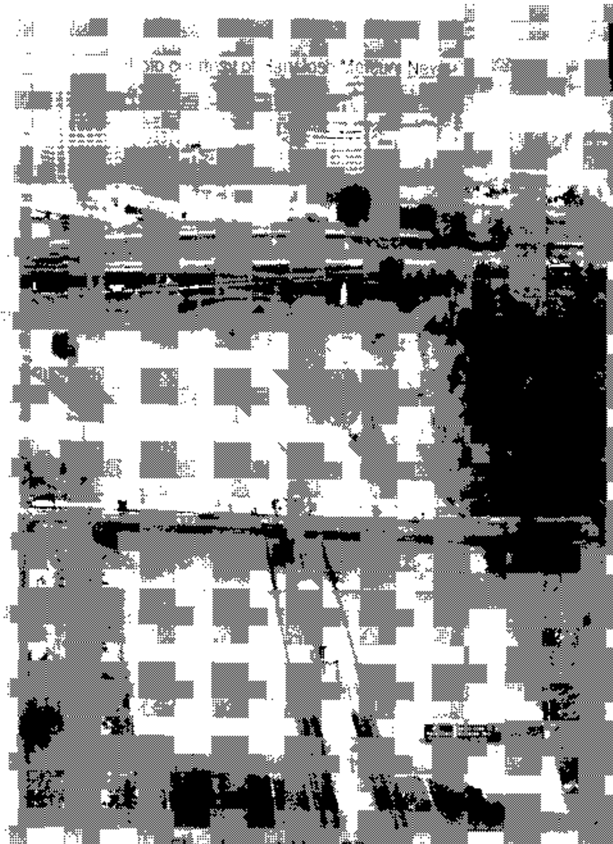
SCALE APPROXIMATE
Santa Clara Valley Water District
LEGEND
● Proposed Fish Passage Modifications
20173310003_041 02/26/2003

Table of Contents

1. INTRODUCTION 1
   1.1 Purpose of this Implementation Plan 1
   1.2 Project Background 1
   1.3 Project Scope 2
2. IMPLEMENTATION GUIDELINES 3
   2.1 Board Policies 3
   2.2 General Guidelines 3
3. CHALLENGES AND STRATEGIES 5
   3.1 Challenge No. 1 —Corps' Funding Constraints 5
   3.2 Challenge No. 2 —Permitting Delays 5
   3.3 Challenge No. 3 — Lengthy Construction Schedule 7
   3.4 Challenge No. 4 — District Funding Constraints 8
4. IMPLEMENTATION PLAN 9
   4.1 Assumptions 9
   4.2 Project Requirements 9
   4.3 Outcomes 10
   4.4 Implementation Cost 14
   4.5 Capital Expenditures Schedule 16
   4.6 Proposed Job Numbers 17
   4.7 Change Management 18

APPENDICES

Appendix A — Project Guide to Abbreviations and Acronyms
Appendix B — Corps Project Schedule
Appendix C — Project Cost Summary
Appendix D — Project Cost Estimate and Construction Detail by Reach
Appendix E — Corps of Engineers Letter dated 3/8/02
Appendix F — DWR Letter dated 11/9/98
Appendix G — Construction Index History
Appendix H — Clean, Safe Creeks & Natural Flood Protection Excerpts
Appendix I — Task Numbers for Capital Projects
Appendix J — Roles and Responsibilities
Appendix K — Consumer Price Index



Flooding at Hwy 87

Upper Guadalupe River Flood Protection Project

IN THIS SECTION:

- Purpose of this Implementation Plan
- Project Background
- Project Scope

STRATEGIC IMPLEMENTATION PLAN

1. INTRODUCTION

The Upper Guadalupe River Flood Protection Project (project) is a 6.5-mile long multi-objective project that will be constructed within a 15-year timeframe. This implementation plan will assist in the preparation of detailed funding and construction schedules to complete the project and to meet the commitment made to Santa Clara County residences in the November 2000 approval of Measure B, the Clean, Safe Creeks and Natural Flood Protection Program. Chapters 1 and 2 describe the project background, scope and goals. Chapter 3 identifies current issues, challenges and proposed strategies. Chapter 4 describes the assumptions and project requirements identified in the development of this plan, project milestones and estimated costs and funding for the project. This chapter also identifies a means of tracking projects costs with the use of job and task numbers. Chapter 5 presents thresholds for management review that may result from changes in project conditions. The appendices contain technical details and related information.

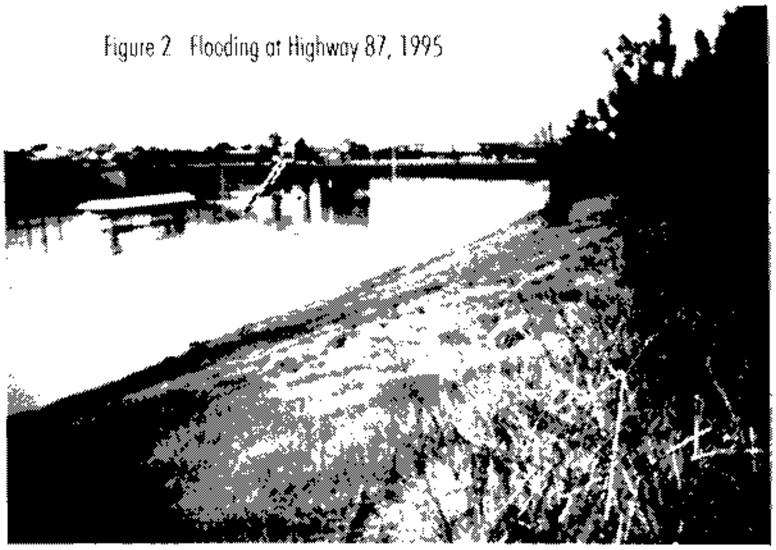
1.1 Purpose of this Implementation Plan

The intent of this plan is to provide guidance to management and staff for the implementation of the project. This plan provides an overview of the background, implementation guidelines, challenges to moving forward, project implementation elements and schedule, and estimated project costs. After reading the report, management and staff should have a general understanding of the challenging issues, steps required to make progress, and the order of priority for these activities. If assumptions and/or project requirements in this plan change, the plan will be reviewed and revised accordingly.

1.2 Project Background

The project limit is from Highway 101 to Interstate 880 and from Interstate 280 to Blossom Hill Road. Due to the damaging floods that occurred along the Upper Guadalupe River in 1982, 1983, 1986, the Board authorized staff to begin a flood protection planning study on the Upper Guadalupe River in the late 1980s. The flood of 1995, Figure 2, which damaged 150 homes and shut down Highway 87 and the parallel light rail line, further exemplified the need for District staff to accelerate the planning study. As the planning study progressed, new environmental issues arose due to regulatory agencies' changes and listing of additional endangered species.

Figure 2 Flooding at Highway 87, 1995



The District requested assistance from the U.S. Army Corps of Engineers (Corps) and in October 1990 the Board approved a Feasibility Study Cost-Sharing Agreement with the Corps. The Corps completed their Feasibility Report in January 1998, concluding that there was federal interest, subject to cost sharing based on the National Economic Development (NED) Plan. The District indicated its preference to construct the Locally-Preferred Plan (LPP) instead of the Corps' (NED) plan. The LPP provides a 100-year level of flood protection, whereas the NED plan provides a 50-year level of flood protection.

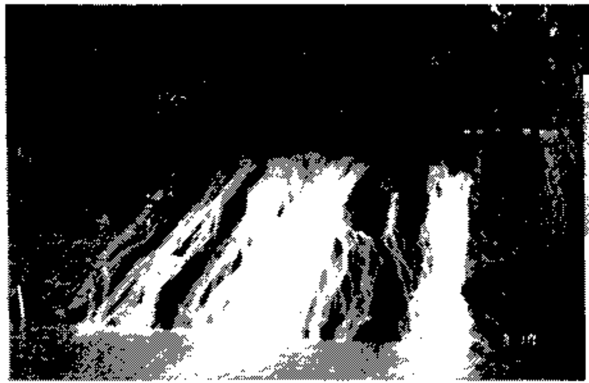
The Upper Guadalupe River Flood Protection Project was authorized for federal construction in the Water Resources Development Act 1999 (Section 101). The District Board of Directors certified the Final Environmental Impact Report/Environmental Impact Study (FEIR/EIS) and approved the Engineer's Report (ER) on August 15, 2001.

The Corps began designing in February 1999 and its current schedule shows that construction could begin as early as October 2004. A basis for formulating the Corps' plan is that Reach A and Reach 6 be constructed by the District prior to completion of the project without federal funding. The Corps is responsible for design and construction of Reach 7 to 12, Canoas and Ross Creeks. However, the Corps requires the District, as the local sponsor, to perform all the Land, Easement, Rights of Way, Relocation and Disposal (LERRD) activities associated with construction of each reach.

The project currently depends on approximately $72.7 (2002 value) million from the Clean, Safe Creeks and Natural Flood Protection Program, and approximately $40.2 million from the Corps. Staff is working with the Corps to re-evaluate the economic analysis. There is a possibility that the 100-year LPP plan may become the new NED plan, in which case the federal contribution to the project will be increased and this implementation plan will need to be revised accordingly.

1.3 Project Scope

The project will provide flood protection for 7,500 homes and businesses in Santa Clara County with potential damages from a 1 percent flood exceeding $270 million (1998 value) and provide long-term environmental benefits for fish and wildlife habitat. The project area consists of eight sub areas called reaches (Reach A, Reaches 6 to 12) and portions of two tributary creeks (Canoas Creek and Ross Creek). See Appendix D for an overview of proposed flood protection improvements by reach.


Guadalupe River spilling onto Hwy 87
upstream of Virginia Avenue
March 10, 1995

IN THIS SECTION:

- Board Policies
- General Guidelines

STRATEGIC IMPLEMENTATION PLAN

2. IMPLEMENTATION GUIDELINES

This section includes the District Board policies which this project supports and general guidelines that staff will follow in order to complete construction of the project within the proposed schedule.

2.1 Board Policies

The following Board's Governance Policies provide overarching direction for implementation of the project:

- "Governance Process Policy GP-1, Article 1.4 – To secure the health, safety, and quality of life in Santa Clara County, the District will carry out a prudent flood management program that reduces the potential for flood damage, balances costs and benefits (including possible environmental restoration and enhancement), and comprehensively addresses the expectations of the community."
- Governance Process Policy GP-1, Article 1.5 – "The District is a steward of the watersheds in Santa Clara County, the streams and the natural resources therein, and will strive to ensure their benefits to the community's quality of life are protected and when appropriate, enhanced or restored. Consistent with the District's primary responsibility to provide for public health and safety, water quality, and water supply, the District's approach in flood management and the water utility shall reflect an ongoing commitment to conserving the environment as a priority in the District's mission of comprehensive public service."
- Ends Policy E-2, Article 2.2 – "There is reduced potential for flood damages."
- Ends Policy E-3, Article 3.2 – "There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate."
- Executive Limitations Policy EL-7.10 – The CEO shall not… "Spend extravagantly, inefficiently, or in ways more costly than necessary."

2.2 General Guidelines

Staff will adhere to the following guidelines to ensure that implementation of the Upper Guadalupe Project will proceed in accordance with Board's Governance Policies. Staff will further use these guidelines to develop specific assumptions and project requirements to ensure the successful completion of the project.

- Maximize Federal funding, State Subvention funding and other funding sources for the project.
- Optimize the flow of monies from Measure B funds to provide timely construction, as per Measure B commitment, and, if possible, to accelerate the construction schedule.
- Capitalize on the best use of other funding sources by efficiently scheduling construction activities to coincide with the best availability of those funding sources.

- Accelerate project delivery via timely permits acquisition and efficient construction execution.
- Utilize a collaborative approach to ensure public and regulatory acceptance of the project.

Bank Erosion at Curtner Avenue
February 1998

Upper Guadalupe River Flood Protection Project

IN THIS SECTION:

- Challenge No. 1
  Corps Funding Constraints
- Challenge No. 2
  Permitting Delays
- Challenge No. 3
  Lengthy Construction Schedule
- Challenge No. 4
  District Funding Constraints

STRATEGIC IMPLEMENTATION PLAN

3. CHALLENGES AND STRATEGIES

District staff is working with the Corps' staff to complete the design, obtain regulatory permits, and secure federal funding needed to initiate project construction. The District and Corps are facing and must address the following challenging issues in order to begin project construction.

3.1 Challenge No. 1 —Corps' Funding Constraints

In the November 1999 WRDA (Section 101), Congress authorized the Corps to proceed with the Upper Guadalupe River Flood Protection Project. However, the Corps must still rely on actual funding allocation in the federal budget for each year. Federal funding allocations for flood protection projects vary each year depending upon federal budget priorities. Without adequate federal funding, the Corps' staff will not be able complete the project design and will not be able to proceed with project construction as scheduled.

In a memorandum dated October 12, 2000, Major General Hans A. Van Winkle, Deputy Commander for Civil Works, recommended that additional studies be carried out during the preconstruction engineering and design phase to confirm the selection of the NED Plan and that the LPP project be considered for full Federal participation subject to a positive report. On September 19, 2002, Corps staff informed District staff that preliminary economic reevaluation indicates the revised Valley View Plan (i.e., 50-year flood protection) may no longer have the maximum annualized net benefit and that the Bypass Channel Alternative (i.e., 100-year flood protection) may become the NED Plan. The Corps' staff is working on the economic reevaluation and plan to report back to Major General Van Winkle once the reevaluation is complete.

To maximize the Corps' funding availability, District staff will undertake the following strategies:

- Coordinate with the Corps to seek alternatives that could increase federal participation.
- Pursue legislative support for federal cost sharing of the 100-year flood protection plan. If not successful, staff will work with the Corps to modify the proposed 50-year plan to a level that is buildable from the environmental impacts perspective.
- Pursue legislative support for annual funding allocation for this project.
- Request Board approval for District construction of Reach 10B for up to $5M and request subsequent federal reimbursements or credits through Section 104.

3.2 Challenge No. 2 —Permitting Delays

Construction of the project requires a number of permits from regulatory agencies, including permits from the Corps, the Regional Water Quality Control Board (RWQCB), the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG).

The discharge of dredged or fill material into waters of the U.S. is subject to regulation by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The District submitted a 404 permit application to the Corps in February 1997. Corps' staff has agreed that the application is adequate and has satisfied most of the conditions required under a Section 404 permit. However, the District must obtain a water quality certification or waiver from the RWQCB prior to the issuance of the 404 permit.

Under Section 401 of the Clean Water Act, the discharge of dredge or fill material into waters of the U.S. must comply with state water quality standards. The District submitted a Section 401 permit application to the RWQCB in August 2001. However, due to concerns with the preferred project selection, the RWQCB has not yet granted the water quality certification.

In January 2002 a collaborative group, the Guadalupe Watershed Integration Working Group (GWIWG), was initiated to resolve project issues. The GWIWG consists of representatives from the District, Corps, RWQCB, NMFS, CDFG, USFWS, National Heritage Institute (NHI), Environmental Protection Agency (EPA) and the City of San Jose. Due to the current re-evaluation of the proposed bypass channel design by the GWIWG, the Corps has suspended its design on Reaches 7 to 10 where bypass channels are proposed. The Corps cannot complete its construction plan until the GWIWG has come to consensus on a preferred alternative.

CDFG has jurisdictional authority over rivers, streams, and lakes under Section 1601 – 1607 of the California Fish and Game Code. The CDFG regulates work that will substantially divert, obstruct, or change the natural flow of a stream, river or lake; substantially change the bed, channel, or bank of a stream, river, or lake; or use material from a streambed. CDFG does not issue a permit, but rather enters into a streambed alteration agreement with the understanding that it can impose conditions on the agreement to ensure no net loss of habitat value or acreage. Since CDFG is an active participant in the GWIWG process, it cannot enter into a Section 1601 Streambed Alteration Agreement until the GWIWG has come to consensus on a preferred alternative and project resolution is reached.

A project requiring a permit from a federal agency and has impacts to endangered species, is compelled to obtain a biological opinion (BO) from USFWS and NMFS. Under the Endangered Species Act (ESA), the Corps must initiate consultation with the USFWS or NMFS pursuant to Section 7 of the ESA if the project limit contains a federally listed threatened or endangered species that may be adversely affected by a permit decision. BOs from USFWS and NMFS were received in July 1998 and April 2000 respectively. Depending on the final outcome from the GWIWG process, new biological opinions may be required.

The project design and construction cannot continue until the GWIWG participants achieve consensus. Resolution of this particular challenge is critical to the project's ultimate direction.

To expedite the permit delivery process, District staff will undertake the following strategies:

- Address all permitting issues through the collaborative process.
- Work with the Corps and the GWIWG to reach a consensus on the design concept by June 2003.
- Obtain management support and involvement to ensure that regulatory agencies issue all permits by September 2003.

3.3 Challenge No. 3 — Lengthy Construction Schedule

One of the main goals of the Clean, Safe Creeks Program is to construct the project within 15 years. The 25-year construction schedule described in the FEIR/EIS is due to environmental mitigation requirements.

To meet the 15-year project construction schedule, District staff will undertake the following strategies:

- Begin construction as soon as possible and shorten the construction duration.
- Work with the Corps to further improve the current design and to complete the additional water temperature modeling so that the project can be constructed in a shorter timeframe without causing significant impacts to the environment.
- Resolve cost sharing issues with the Corps immediately so that the District and the Corps can execute the Project Cooperative Agreement (PCA) as soon as possible. Execution of the PCA will allow the Corps to request federal funding to complete design and start construction.
- Begin construction of Reach 10B prior to PCA execution, and obtain Section 104 credit from the Corps.
- Analyze the impacts of a shorter construction schedule and develop a baseline schedule that accommodates the District's existing resource limitations.
- Develop a 15-year baseline implementation schedule that the Clean Safe Creeks Fund can support. The District will base this schedule on the Corps' latest schedule dated August 28, 2003 (see Appendix B).
- Reconcile the baseline schedule with the Corps' updated schedule at the conclusion of the GWIWG process and PCA execution.
- If the District cannot fund the Corps' schedule with the baseline resources, project staff will request that the Watershed Management Division and Guadalupe Watershed Managers consider changes in funding allocation.
- Set up appropriate project coding system to ensure that 1) appropriate annual allocation of Clean Safe Creeks Program funds meet the project budget and schedule, and 2) project expenditures are accurately documented for filing federal credit and state reimbursement claims.

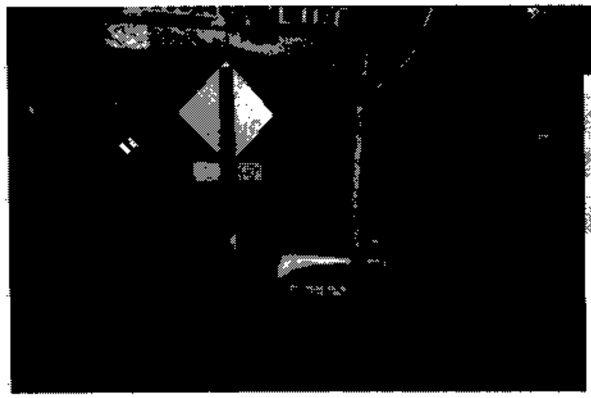
- Obtain necessary rights-of-way in a timely manner. Prepare a property acquisition schedule which coincides with the Corps construction schedule, and ensure close coordination with the District real estate staff.

3.4 Challenge No. 4 — District Funding Constraints

Currently, the Clean Safe Creeks Program will provide for the project approximately $72.7 million over a span of 15 years. The District will require funding from the Federal, State and other sources to complete the project.

To ensure adequate funding from the Clean Safe Creeks Program, District staff will undertake the following strategies:

- Work with the District Watershed Management Division to maximize project-dedicated funds from the Clean Safe Creeks Program without affecting the delivery of other Clean Safe Creeks capital projects.
- Determine future cost-sharing opportunities with the City of San Jose and expedite project elements where there are potential cost savings from other federal, state, or local agency funding sources.
- Pursue cost sharing with the City of San Jose for the design and construction of Willow Glen Way Bridge.
- Pursue cost sharing with the City of San Jose for the design and construction of recreational trails along the project alignment.
- Pursue legislative support of annual State budget for the Flood Control Subvention Program.
- Execute the PCA as soon as possible to maximize state reimbursement for right-of-way and relocation costs.
- Request State Subvention Program reimbursements as soon as possible to increase reserve funds for the project.



Flooding from Guadalupe River at Willow Street - 1995

Upper Guadalupe River Flood Protection Project

STRATEGIC IMPLEMENTATION PLAN

IN THIS SECTION:

- Assumptions
- Project Requirements
- Outcomes
- Implementation Cost
- Capital Expenditure
- Schedule
- Proposed Job Numbers
- Change Management

4. IMPLEMENTATION PLAN

Using the guidelines described in Chapter 2, staff developed the following assumptions and requirements for project implementation. Staff considered these assumptions and requirements in proposing the task priorities, implementation schedule, and expenditure plan. Any changes to these assumptions or requirements will require this implementation plan to be reviewed and/or revised accordingly.

4.1 Assumptions

- Regulatory agency permits will allow the Corps and District to construct the project in 15 years or less.
- Regulatory agencies will issue necessary permits by September 2003.
- The PCA will be executed by October 2003.
- The Corps will receive adequate federal funding to complete design of first phase of construction and start construction in October 2004.
- The project estimated project cost will not change significantly from the Engineer's Report and FEIR/EIS.
- The project design will stay within the impact envelope and not require additional mitigation.
- The District will cost share with the Corps on the 50-year flood protection plan and will pay for all incremental costs up to the 100-year flood protection plan. The District's share of the project shall not exceed $97.4 million. This cap assumes that:
    - The City of San Jose will cost share with the District on the relocation of the Willow Glen Way Bridge.
    - The District and the City of San Jose will fund the design and construction of recreational trails along the project alignment. The District portion will be funded by the trail component of the Clean, Safe Creeks and Natural Flood Protection Program.
    - The construction of Willow Street and Alma Avenue Bridges is part of the Corps construction.
- The District will receive reimbursements from the California Flood Control Subventions Program.

4.2 Project Requirements

- The District will provide 100-year flood protection along the Upper Guadalupe River.
- The Corps and the District will start construction of Reaches 6, 7 and 8 as early as possible. Completion of these reaches will provide flood protection with minimal environmental impacts and does not induce flooding downstream.
- The Corps and the District will start mitigation plantings in Reaches 10B and 12 as soon as possible to provide riparian and water temperature benefits with minimal environmental impacts.

- Fish Passage Modification improvements will begin as soon as possible to provide fish access to the Upper Guadalupe Watershed.
- The construction schedule will be compatible with the 15-year Clean, Safe Creeks Plan and acceptable to the Corps.

4.3 Outcomes

The outcome of the Upper Guadalupe River Project is the flood protection for over 7,500 existing structures from the 100-year flood event. To achieve this outcome, the District and the Corps must complete a number of milestones throughout project implementation. See Figure 3 for an illustration of project requirements, milestones and tasks.

During the project implementation phase, staff will consider the order of these milestones to set priorities for necessary project activities, resources and budget.

Milestone 1: Acquire Regulatory Permits

The Corps and District will need permits from the Corps, NMFS, FWS, RWQCB, and DFG to begin constructing the project. The Corps and District must complete the following tasks in order to obtain permits by September 2003:

- Water quality certification received by June 2003
- Reach consensus through the GWIWG process on the final design alternative by June 2003.
- Collect additional data and conduct additional water temperature modeling to demonstrate that the project can be constructed within 15 years with no additional significant impacts to riparian vegetation and stream resources by June 2003.

Milestone 2: Execute Project Cooperative Agreement (PCA)

The PCA is an agreement between the Corps and the District which defines the project scope and identifies financial responsibilities of the federal and local sponsor.
A PCA is required for the Corps to request federal funding for construction and for the District to file claims for reimbursements from the California Flood Control Subventions Program for its share of the project.

The Corps and District must complete the following tasks in order to execute the PCA by October 2003:

- Complete the 65-percent level design and estimated cost for the construction of the 50-year NED plan and economic re-evaluation by April 2003.
- Agree on the cost-sharing amount for the 50-year NED plan and the incremental cost to build the 100-year plan.
- Complete the Draft PCA by June 2003.
- Complete the Final PCA by October 2003.

Milestone 3: Secure Federal Funding for Construction

The Corps must receive annual federal allocations in order to initiate construction and complete the project. The Corps and District must complete the following tasks:

- The Corps must request funding allocation in each fiscal year starting in 2004. (The Federal budget starts on October 1 of each year.)
- The Corps must complete the 95-percent design and construction documents for the project by March 2004.
- The Corps must complete the final design and construction documents for the project by June 2004.
- The District must seek state and federal legislative support for annual federal funding of the Upper Guadalupe River Project.

Milestone 4: Right-of-Way for Project Construction

As Local Sponsor, the District is required to provide all rights-of-way needed for the project. The District must complete the following tasks:

- Acquire all lands, easements and rights-of-way in accordance with the Corps's schedule
- Submit a Right of Way Certification to the Corps before the Corps advertises for construction of each reach.
- Complete necessary structure demolitions in accordance with the Corps schedule.
- Submit requests for reimbursement to the California Flood Control Subventions program for the District's share of the right-of-way acquisition cost.

Milestone 5: Project Construction

As the Local Sponsor of the project, the District must also provide for relocation of bridges and utilities in accordance with the Corps's construction schedule shown in Figure 4. The District must also contribute the required 5% of the construction cost of each phase before the Corps starts project construction. The District must complete the following tasks:

- Provide the required 5% cash contribution for each Corps construction phase in accordance with the Corps' construction schedule.
- Complete the design of Reach 6 and complete construction at the same time as indicated in the Corps' construction schedule for Reach 8.
- Coordinate the relocation of utilities in the project area in accordance with the Corps schedule.
- Complete the design and construction of the Willow Glen Way Bridge, West Virginia Bridge, Curtner Avenue Bridge, and other bridges in accordance with the Corps' construction schedule.

- Pursue construction for Reach 10B and fish passage modifications in FY04 if all regulatory agency permits are acquired by September 2003.

Figure 3 – Project Milestones

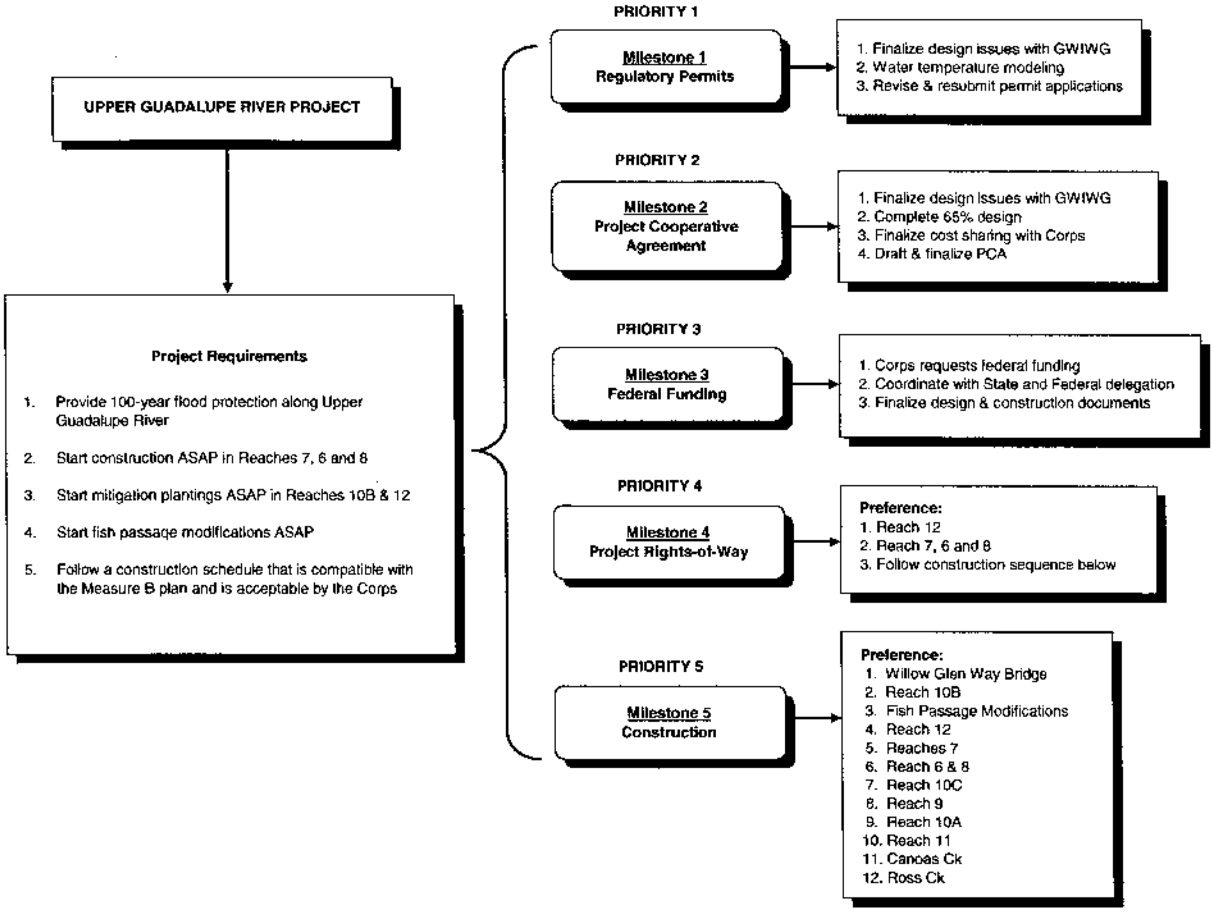
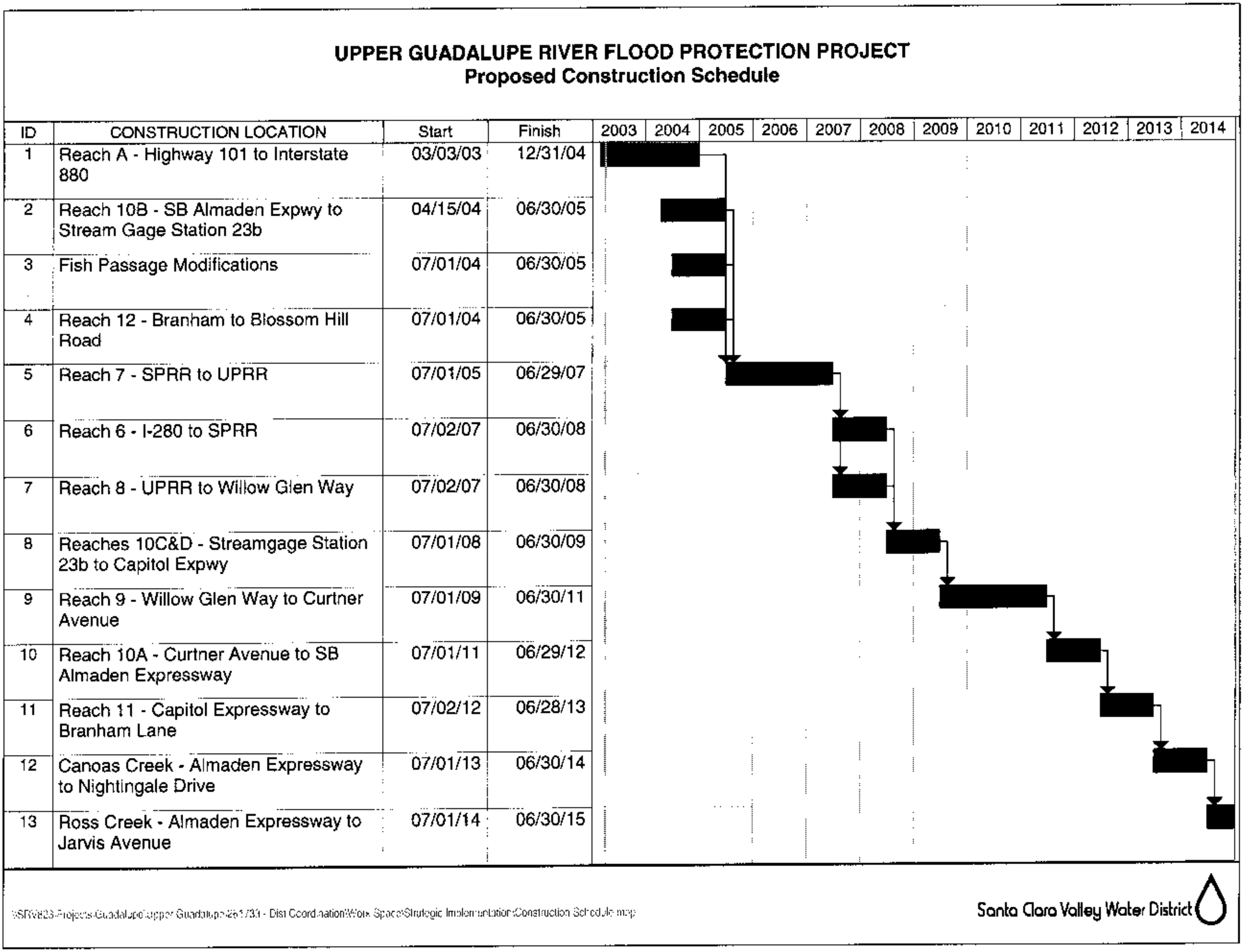

UPPER GUADALUPE RIVER PROJECT
Project Requirements
1. Provide 100-year flood protection along Upper Guadalupe River
2. Start construction ASAP in Reaches 7, 6 and 8
3. Start mitigation plantings ASAP in Reaches 10B & 12
4. Start fish passage modifications ASAP
5. Follow a construction schedule that is compatible with the Measure B plan and is acceptable by the Corps
PRIORITY 1
Milestone 1
Regulatory Permits
1. Finalize design issues with GWIWG
2. Water temperature modeling
3. Revise & resubmit permit applications
PRIORITY 2
Milestone 2
Project Cooperative Agreement
1. Finalize design issues with GWIWG
2. Complete 65% design
3. Finalize cost sharing with Corps
4. Draft & finalize PCA
PRIORITY 3
Milestone 3
Federal Funding
1. Corps requests federal funding
2. Coordinate with State and Federal delegation
3. Finalize design & construction documents
PRIORITY 4
Milestone 4
Project Rights-of-Way
Preference:
1. Reach 12
2. Reach 7, 6 and 8
3. Follow construction sequence below
PRIORITY 5
Milestone 5
Construction
Preference:
1. Willow Glen Way Bridge
2. Reach 10B
3. Fish Passage Modifications
4. Reach 12
5. Reaches 7
6. Reach 6 & 8
7. Reach 10C
8. Reach 9
9. Reach 10A
10. Reach 11
11. Canoas Ck
12. Ross Ck

Figure 4 – Proposed Construction Schedule



UPPER GUADALUPE RIVER FLOOD PROTECTION PROJECT
Proposed Construction Schedule

ID	CONSTRUCTION LOCATION	Start	Finish
1	Reach A - Highway 101 to Interstate 880	03/03/03	12/31/04
2	Reach 10B - SB Almaden Expwy to Stream Gage Station 23b	04/15/04	06/30/05
3	Fish Passage Modifications	07/01/04	06/30/05
4	Reach 12 - Branham to Blossom Hill Road	07/01/04	06/30/05
5	Reach 7 - SPRR to UPRR	07/01/05	06/29/07
6	Reach 6 - I-280 to SPRR	07/02/07	06/30/08
7	Reach 8 - UPRR to Willow Glen Way	07/02/07	06/30/08
8	Reaches 10C&D - Streamgage Station 23b to Capitol Expwy	07/01/08	06/30/09
9	Reach 9 - Willow Glen Way to Curtner Avenue	07/01/09	06/30/11
10	Reach 10A - Curtner Avenue to SB Almaden Expressway	07/01/11	06/29/12
11	Reach 11 - Capitol Expressway to Branham Lane	07/02/12	06/28/13
12	Canoas Creek - Almaden Expressway to Nightingale Drive	07/01/13	06/30/14
13	Ross Creek - Almaden Expressway to Jarvis Avenue	07/01/14	06/30/15

\\SRV823\Projects\Guadalupe\Upper Guadalupe\26173 - Dist Coordination\Work Space\Strategic Implementation\Construction Schedule.mpp

Santa Clara Valley Water District

4.4 Implementation Cost

The Upper Guadalupe River Project is funded by two main sources: federal cost sharing and the District's Clean Safe Creeks Program.

The project was authorized for federal construction in the Water Resources Development Act of 1999 (Section 101). Under the current authorization, the Corps can proceed with construction of the 100-year flood protection LPP Plan with federal cost sharing limited to the 50-year flood protection NED plan. However, project cost sharing is currently being reconsidered by the Corps for further federal participation. The District's share of the project cost will change if the 100-year flood protection alternative is revised by the Corps as the new NED plan.

For comparison purposes, the current authorization and alternate authorization cost sharing totals are presented below:

Table 1. Cost Share Comparison Summary

	FEDERAL COST	**DISTRICT COSTS**				**TOTAL PROJECT COST**[2]
	Federal Project		**District Project**			
	NED Corps Share	**NED District Share (LERRD)**	**LPP Incremental Cost**	**Reach A, Reach 6 & Fish Passage Modifications**	**District Total Cost**	
Current Authorization: The NED Plan is the Valley View Alternative (50-year flood protection). Estimated Federal Project Cost: $79.7M	**$40.2M**	$39.5M	$30.0M	$27.9M	**$97.4M**	**$137.6M**
Alternate Authorization The NED Plan is the Bypass Alternative (100-year flood protection). Estimated Federal Project Cost: $106.1M	**$52.4M**	$53.7M	$ 3.6M	$27.9M	**$85.2M**	**$137.6M**

Funding criteria for the Upper Guadalupe River Project are as follows:

- The District, as local sponsor, will contribute a minimum of 35% to a maximum of 50% of the total project cost.
- The Clean Safe Creeks Program will provide $72.7 million over 15 years from 2001 to 2016.

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[2] The original project cost identified in the Clean Safe Creeks Program is $113.7 M. That amount was based on January 1996 dollar values; whereas the $137.6 M is based on October 2002 dollar values and updated project costs. Properties have been acquired on a voluntary basis since the 1980s. Remaining ROW cost are estimated to be $32.1 M.

4.5 Capital Expenditures Schedule

Table 3 shows the project construction sequence along with the proposed capital expenditures by reach and by fiscal year.

Upper Guadalupe River Flood Protection Project
Table 3 Capital Expenditures Schedule

Fiscal Year	02 2001-02	03 2002-03	04 2003-04	05 2004-05	06 2005-06	07 2006-07	08 2007-08	09 2008-09	10 2009-10	11 2010-11	12 2011-12	13 2012-13	14 2013-14	15 2014-15	16 2015-16	Total
Capital Expenditures																
R-A Construction		4,400,000														4,400,000
Design for Utilities Relocation			309,283													309,283
R-10B Construction			438,602	0												438,602
R-10B Mitigation				930,840												930,840
Fish Passage Modifications Design			469,300													469,300
Fish Passage Modifications Construction				930,700												930,700
R-12 Right of Way			10,995,000													10,995,000
R-12 Construction				6,040,491												6,040,491
R-12 Mitigation				782,857												782,857
R-7 Right of Way			4,224,506	3,469,164												7,693,670
R-7 Utilities Relocation					442,661											442,661
R-7 Roads Design					69,161											69,161
R-7 Roads						795,347										795,347
R-6 Right of Way	436,453		28,000	28,000	28,000	6,470,439										6,990,892
R-6 Utilities Relocation Design						73,643										73,643
R-6 Utilities Relocation							846,898									846,898
R-6 Bridges & Roads Design						133,747										133,747
R-6 Bridges & Roads							1,538,091									1,538,091
R-6 Construction							6,378,065									6,378,065
R-6 Mitigation							272,572									272,572
R-8 Right of Way						5,318,000										5,318,000
R-8 Utilities Relocation							221,263									221,263
R-8 Roads Design						2,041										2,041
R-8 Roads							23,474									23,474
R-10C&D Right of Way							250,000									250,000
R-10C&D Utilities Relocation								44,384								44,384
R-10C&D Bridges Design							92,914									92,914
R-10C&D Bridges								1,068,507								1,068,507
R-10C&D Construction								768,959								768,959
R-10C&D Mitigation								197,079								197,079
R-9 Right of Way								1,695,000								1,695,000
R-9 Utilities Relocation									2,200,762							2,200,762
R-9 Willow Glen Way Bridge Design		281,250														281,250
R-9 Willow Glen Way Bridge Construction		1,642,500	232,500													1,875,000
R-9 Construction									2,555,496							2,555,496
R-9 Mitigation									36,099							36,099
R-10A Right of Way										169,000						169,000
R-10A Utilities Relocation											14,795					14,795
R-10A Bridges & Roads Design										150,091						150,091
R-10A Bridges & Roads											1,726,049					1,726,049
R-10A Mitigation											21,033					21,033
R-11 Right of Way	689,553										2,130,154					2,819,707
R-11 Utilities Relocation												623,022				623,022
R-11 Construction												1,369,645				1,369,645
R-11 Mitigation												142,944				142,944
Canoas Bridges & Roads Design												79,717				79,717
Canoas Bridges & Roads													916,746			916,746
Ross Ck Utilities Relocation														9,863		9,863
Ross Ck Bridges & Roads Design													137,888			137,888
Ross Ck Bridges & Roads														1,585,713		1,585,713
Ross Ck Construction														196,934		196,934
PED Corps Coordination	$335,000															335,000
District Project Expenditures	$1,461,006	$6,323,750	$16,697,190	$12,182,052	$539,822	$12,793,218	$9,623,277	$3,773,929	$4,792,357	$319,091	$3,892,031	$2,215,328	$1,054,634	$1,792,511	$0	$77,460,196
District Project Administration	$401,915	$300,000	$300,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$0	$3,201,915
															City of San Jose Contribution (subtract from above)	$1,642,500
															Subtotal	$79,019,611
															104 Credit for Reach 10B Construction (subtract from Subtotal)	$1,369,442
															District Share of Funding	**$77,650,169**
															Clean Safe Creeks Funding	**$72,740,000**
															State Subventions Reimbursement	**$4,910,169**
For Information - Corps Const Contribution	$0	$0	$1,369,442	$0	$13,052,205	$0	$5,199,369	$3,274,526	$7,577,553	$0	$0	$6,237,147	$1,048,665	$2,499,352	$0	$40,268,271
															Properties already purchased (for information)	**$18,071,888**
															TOTAL PROJECT COST (For Information)	**$137,632,828**

P:\Guadalupe\Upper Guadalupe\261733 - Dist Coordination\Work Space\Strategic Implementation\Copy of Cost Breakdown 50-Year NED.XLSFunding by Sequence

1-23-03 bg

4.6 Proposed Job Numbers

Project budgets and expenditures will be tracked using job numbers shown in Table 4 below. Table 5 is the expenditure schedule by job and fiscal year. Task numbers will document expenditures by project phases and by specific tasks within each phase (see Appendix I). Assumptions for the "Reaches 7 to 12" job number are:

- The PCA would stipulate percentage contributions at the end of the project. Therefore, tracking of NED vs. LPP cost items is not necessary.
- LERRD items will be budgeted under one job number and expenditures tracked with task numbers.
- When filing for State Subvention Reimbursements, staff will use right-of-way maps.
- This job number will not itemize expenditures by reach.

Table 4. Proposed Job Numbers

Job Number	Name	Brief Description
2615XX	Guadalupe River Reaches 7 to 12	This project provides funds for the Upper Guadalupe River for Reaches that will be federally cost-shared.
2615XX	Upper Guadalupe River Escrow	This project provides for an interim accounting of District funds required to be deposited in an escrow account for construction of the Upper Guadalupe River Flood Protection Project.
2615XX	Guadalupe River Reach A	This project provides funds for construction of channel improvements along Lower Guadalupe River from Highway 101 to I-880. This project will be constructed under the same contract as the Lower Guadalupe River Project
2615XX	Guadalupe River Reach 6	This project provides funds for construction of channel improvements along Upper Guadalupe River from Interstate 280 to SPRR. This project is not federally funded.
2615XX	Upper Guadalupe River Project Fish Passage Modifications	This project provides funds for remediation of existing fish barriers in the Upper Guadalupe River corridor.

Table 5. Capital Expenditures Schedule by Job Number

REACH	FISCAL YEAR														TOTAL
	02	03	04	05	06	07	08	09	10	11	12	13	14	15	
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	
Total Utility Design			309												309
Reach 10BTotal			390	980											1,369
Reach 12 Total			10,995	6,823											17,818
Reach 7 Total			4,225	3,469	512	795									9,001
Reach 8 Total			-			5,320	245								5,565
Reach 10C Total							343	2,079							2,422
Reach 9 Total		1,924	232					1,695	4,792						8,644
Reach 10A Total										319	1,762	-	-	-	2,081
Reach 11 Total	690										2,130	2,136	-	-	4,955
Canoas Ck Total												80	917	-	996
Ross Ck Total													138	1,793	1,930
PED Total in CSC Fund	335														335
District Project Administraton	402	300	300	200	200	200	200	200	200	200	200	200	200	200	3,202
261737 - REACH 7-12	**1,427**	**2,224**	**16,451**	**11,472**	**712**	**6,315**	**788**	**3,974**	**4,992**	**519**	**4,092**	**2,415**	**1,255**	**1,993**	**$ 58,626**
261735 - REACH 6	**436**		**28**	**28**	**28**	**6,678**	**9,036**								**$ 16,234**
261736 - FISH PASS MOD			**469**	**931**											**$ 1,400**
261734 - REACH A		**4,400**													**$ 4,400**

4.7 Change Management

Staff made a number of assumptions in developing the implementation schedule and cost for the design and construction of the project. As more information becomes available and project conditions change, some of those assumptions may change and may impact the outcomes intended for the project. When such a change occurs, staff will identify the issue, evaluate impacts, identify possible solutions and make recommendations to management. Staff will then modify the project objectives, criteria, assumptions, outcomes, cost, and schedule based on the corrective action.

Table 6. Conditions for Change Management

	Assumptions		**Trigger Conditions**
A.	Regulatory permits will allow the District and the Corps to construct the project in 15 years or less.	1.	Additional water temperature modeling data does not support a construction schedule of 15 years or less.
		2.	During the GWIWG process and permit negotiation phase, regulatory agency staff does not support a construction schedule of 15 years or less.
		3.	During permit negotiation phase, regulatory agency staff requires additional mitigation for a construction period of 15 years or less.
B.	Regulatory agencies will issue permit so the Corps and District can start construction in October 2004.		When information indicates that a regulatory agency (i.e., the Corps, FWS, NMFS, RWQCB, or DFG) cannot issue its permit by June 2003
C.	The PCA will be executed by May 2004.		When information indicates that the Corps staff cannot initiate and complete its work on PCA by October 2003.
D.	The Corps will receive adequate federal funding to start construction in October 2004.		When information indicates that the initial draft federal budget does not include funding for the Corps to begin construction in October 2004.
E.	The project design and estimated project cost will not change significantly from the Engineer's Report and FEIR/EIS.	1.	When design changes require additional analysis and preparation of a supplemental CEQA/NEPA documents.
		2.	When regulatory agencies require additional mitigation.
F.	The District will cost share with the Corps on the 50-year flood protection plan and will pay for all increments up to the 100-year flood protection plan. The District's share of the project shall not exceed $97.4 million.	1.	Any cost increase of estimated project cost by 10% or more.
		2.	When LERRD includes the relocation of Willow Street and Alma Avenue Bridges.
		3.	When HBRR grant is not available for Willow Glen Way Bridge or when the City of San Jose does not want to cost share for the bridge construction.
		4.	When the City of San Jose does not want to cost share for recreational trails.
		5.	When the Corps will cost share with the 100-year plan.

Fish Passable Drop Structure on Guadalupe River

Upper Guadalupe River Flood Protection Project

IN THIS SECTION:

- Appendix A
  Abbreviations and Acronyms
- Appendix B
  Corps Project Schedule
- Appendix C
  Project Cost Summary
- Appendix D
  Project Detail by Reach
- Appendix E
  Corps Letter 3/8/02
- Appendix F
  DWR Letter 11/9/98
- Appendix G
  Construction Index History
- Appendix H
  Clean, Save Creeks Excerpts
- Appendix I
  Task Numbers
- Appendix J
  Roles and Responsibilities
- Appendix K
  Consumer Price Index
- Appendix H

STRATEGIC IMPLEMENTATION PLAN

APPENDIX A

Project Guide to Abbreviations and Acronyms

ABBREVIATIONS AND ACRONYMS

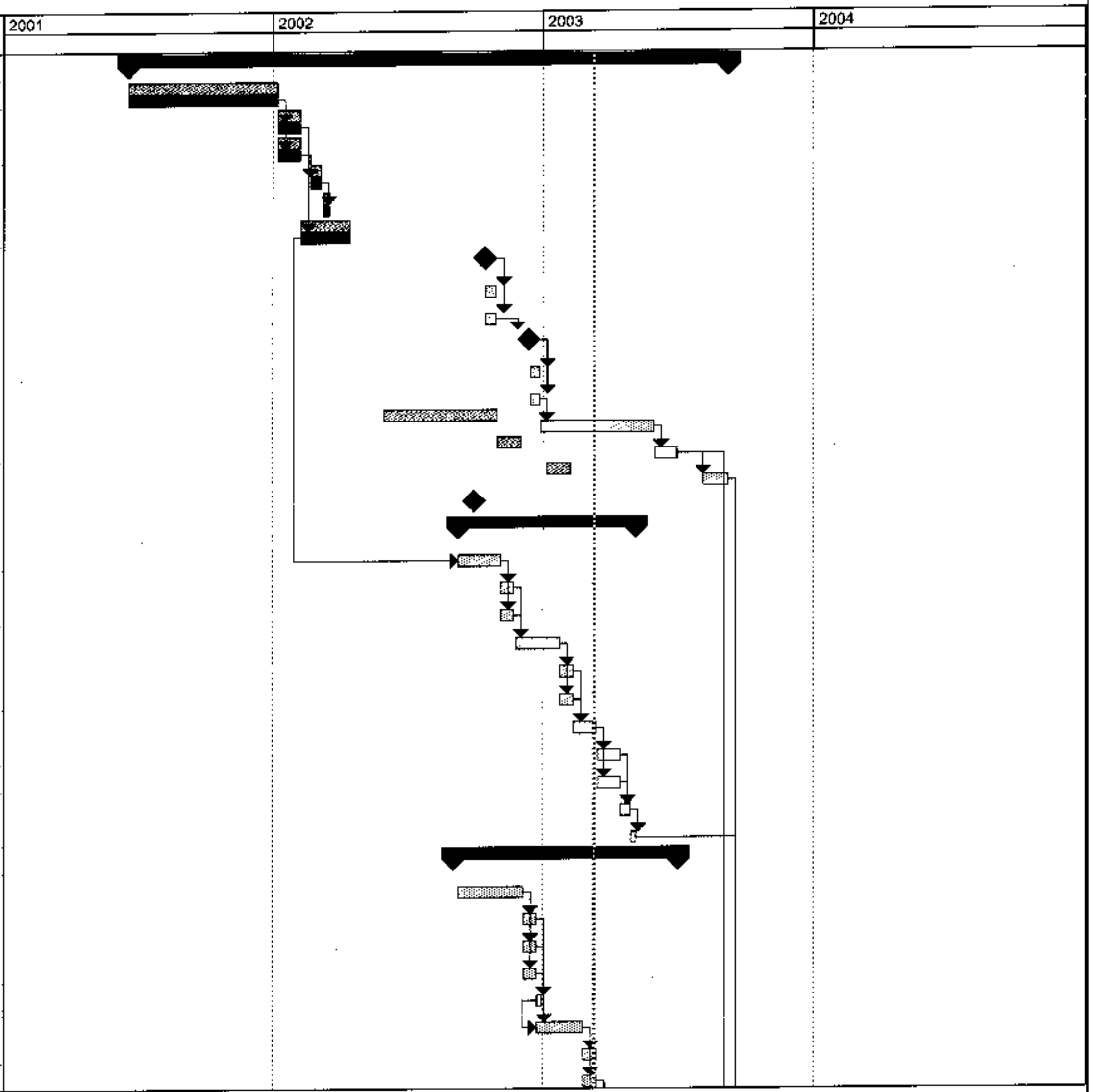
ACM	Articulated Concrete Mat Lining
ADA	American Disabilities Act
CCI	Construction Cost Index
CDFG	California Department of Fish and Game
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CORPS	U.S. Army Corps of Engineers
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ENR	Engineering News Record
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GWIWG	Guadalupe Watershed Integration Working Group
LERRD	Land, Easement, Rights of Way, Relocation and Disposal
LPP	Locally-Preferred Plan
NED	National Economic Development
NGVD	National Geodetic Vertical Datum
NHI	National Heritage Institute
NMFS	National Marine Fisheries Service
PCA	Project Cooperative Agreement
RCB	Reinforced Concrete Box
RWQCB	Regional Water Quality Control Board
SJWC	San Jose Water Company
SPRR	Southern Pacific Railroad
UPRR	Union Pacific Railroad
USFWS	U.S. Fish and Wildlife Service
WRDA1999	Water Resources Development Act 1999

APPENDIX B

Corps' Project Schedule

US Army Corps of Engineers
UPPER GUADALUPE RIVER

ID	❶	Task Name	Start	Finish
1		**NED**	**06/20/01**	**09/08/03**
2	✓	35% Submit - NED	06/20/01	01/07/02
3	✓	COE Review (35%) - NED	01/08/02	02/07/02
4	✓	SCVWD Review (35%) - NED	01/08/02	02/07/02
5	✓	Value Engr Study (35%) - NED	02/21/02	03/07/02
6	✓	SCVWD Review (VE) - NED	03/11/02	03/18/02
7	✓	65% Submittal - NED Reaches 7,8,9,10	02/08/02	04/15/02
8	▦	Reach 11, Ross & Canoas - 35% submittal	10/15/02	10/15/02
9		CoE Review - 35%	10/16/02	10/29/02
10		SCVWD Review - 35%	10/16/02	10/29/02
11	▦	Reach 11, Ross & Canoas - 65% submittal	12/13/02	12/13/02
12		CoE Review - 65%	12/16/02	12/27/02
13		SCVWD Review - 65%	12/16/02	12/27/02
14		SEC. 7 Consult	12/30/02	05/30/03
15		Econ Re-eval	06/02/03	07/01/03
16		Memo to HQ	08/06/03	09/08/03
17	▦	G.W.I.W.G. Selection	10/01/02	10/01/02
18		**NED-DDR**	**09/09/02**	**05/06/03**
19	▦	35% Submit (DDR) - NED	09/09/02	11/05/02
20		COE Review (35%) (DDR) - NED	11/06/02	11/22/02
21		SCVWD Review (35%) (DDR) - NED	11/06/02	11/22/02
22		65% Submit (DDR) - (NED)	11/25/02	01/23/03
23		COE Review (65%) (DDR) - NED	01/24/03	02/11/03
24		SCVWD Review (65%) (DDR) - NED	01/24/03	02/11/03
25		95% Submit (DDR) - NED	02/12/03	03/14/03
26		ITR Review (95%) (DDR) - NED	03/17/03	04/15/03
27		SCVWD Review (95%) (DDR) - NED	03/17/03	04/15/03
28		Final DDR Submit - NED	04/16/03	04/29/03
29		DDR Cert. - NED	04/30/03	05/06/03
30		**LPP**	**09/03/02**	**07/02/03**
31	▦	35% Submit - LPP	09/09/02	12/05/02
32		COE Review (35%) - LPP	12/06/02	12/23/02
33		SCVWD Review (35%) - LPP	12/06/02	12/23/02
34		Value Engineering Study (35%) - LPP	12/06/02	12/23/02
35		SCVWD Review (VE) - LPP	12/24/02	12/30/02
36		65% Submit - LPP	12/24/02	02/24/03
37		COE Review (65%) - LPP	02/25/03	03/14/03
38		SCVWD Review (65%) - LPP	02/25/03	03/14/03

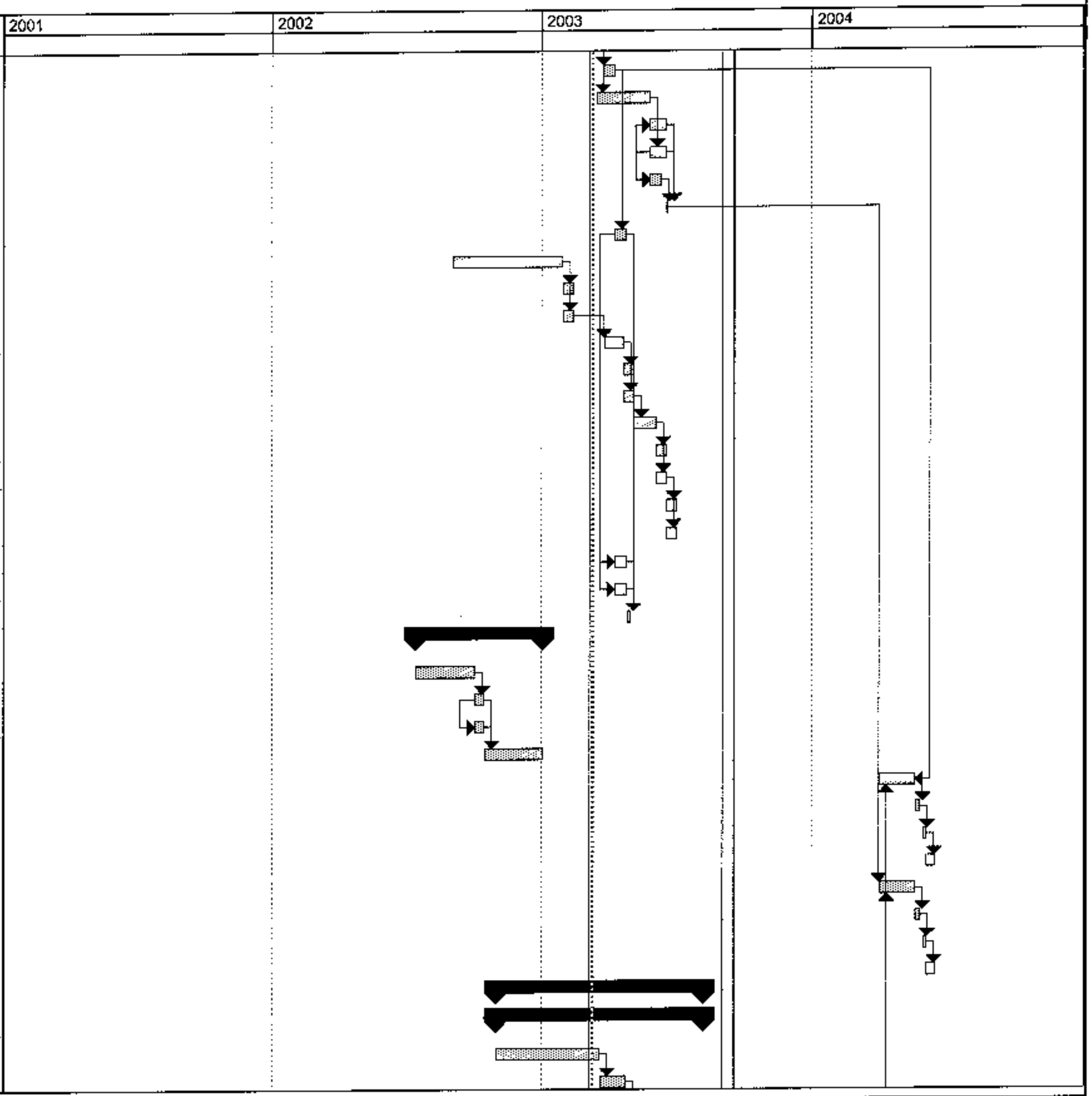


Project: UpperGuad-ddoak
Date: August 2002

Task	▭	Milestone	◆	Rolled Up Milestone	◇	Split	┆
Task Progress	▬	Baseline Milestone	◇	Baseline Summary	▭	External Tasks	▨
Critical Task	▭	Summary	▬	Rolled Up Baseline	▨	Project Summary	▬
Critical Task Progress	▬	Rolled Up Task	▭	Rolled Up Baseline Milestone	◇	External Milestone	◆
Baseline	▨	Rolled Up Critical Task	▭	Rolled Up Progress	▬	Deadline	⇩

US Army Corps of Engineers
UPPER GUADALUPE RIVER

ID	❶	Task Name	Start	Finish
39		Reach 10B 95% Submit - LPP	03/26/03	04/09/03
40		95% Submit - LPP	03/17/03	05/27/03
41		BCOE Review (95%) - LPP	05/28/03	06/18/03
42		SCVWD Review (95%) - LPP	05/28/03	06/18/03
43		ITR Review (95%) - LPP	05/28/03	06/11/03
44		P&S Certification - LPP	06/19/03	06/19/03
45		SCVWD Review (10B) - LPP	04/10/03	04/25/03
46	▦	Reach 10B - 35% design	09/03/02	01/29/03
47		CoE Review - 35%	01/30/03	02/12/03
48		SCVWD Review - 35%	01/30/03	02/12/03
49		Reach 10B - 65% design	03/27/03	04/21/03
50		CoE Review - 65%	04/22/03	05/05/03
51		SCVWD Review - 65%	04/22/03	05/05/03
52		Reach 10B - 95% design	05/06/03	06/04/03
53		CoE Review - 95%	06/05/03	06/18/03
54		SCVWD Review - 95%	06/05/03	06/18/03
55		ITR Review - 10b	06/19/03	07/02/03
56		BCOE Review - 10b	06/19/03	07/02/03
57		ITR Review (10B) - LPP	04/10/03	04/25/03
58		BCOE Review (10B) - LPP	04/10/03	04/25/03
59		Reach 10B P&S Cert - LPP	04/28/03	05/01/03
60		**Water Temperature Modeling**	**07/15/02**	**01/02/03**
61	▦	NED Prelim Water Model	07/15/02	10/02/02
62		SCVWD Review - NED Water Model	10/03/02	10/15/02
63		NMFS Review - NED Water Model	10/03/02	10/15/02
64	▦	LPP Prelim Water Model	10/17/02	01/02/03
65		CBD Reach 10b	04/01/04	05/19/04
66		Open Bids - 10b	05/20/04	05/25/04
67		Awards Contracts - 10b	05/31/04	06/03/04
68		NTP Reach 10b	06/04/04	06/14/04
69		CBC Reaches 7, 8 & 12	04/01/04	05/19/04
70		Open Bids - 7, 8 & 12	05/20/04	05/25/04
71		Award Contract - 7, 8 & 12	05/31/04	06/03/04
72		NTP Reaches 7, 8 & 12	06/04/04	06/14/04
73		**WES PHYSICAL MODEL**	**11/01/02**	**08/07/03**
74		**Revision to Model**	**11/01/02**	**08/07/03**
75	▦	50% Submittal	11/01/02	03/20/03
76		95% submittal	03/21/03	04/24/03

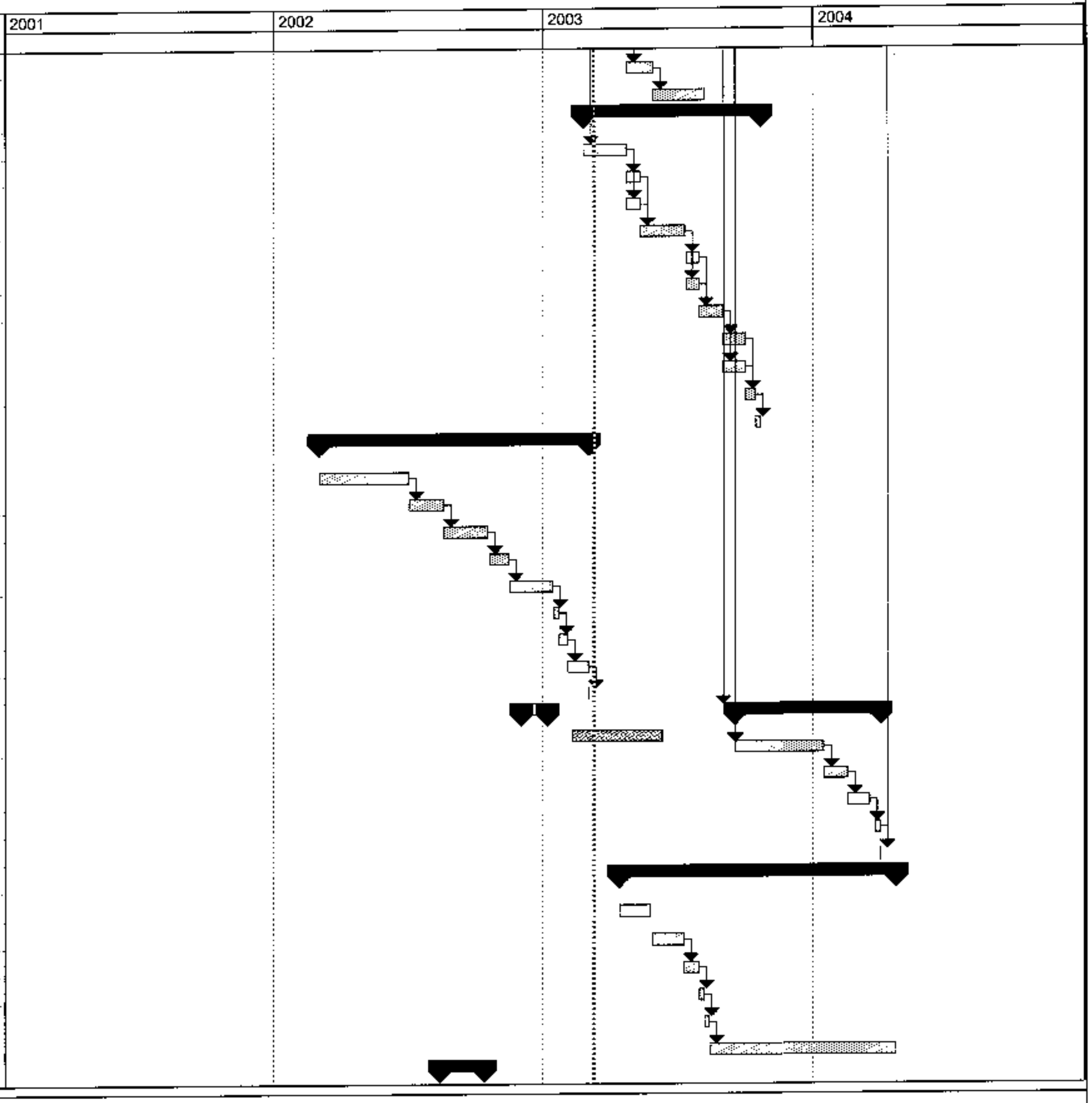


Project: UpperGuad-ddoak
Date: August 2002

Task	▨	Milestone	◆	Rolled Up Milestone	◇	Split	⋯⋯
Task Progress	■	Baseline Milestone	◇	Baseline Summary	▭	External Tasks	▨
Critical Task	▨	Summary	■	Rolled Up Baseline	▨	Project Summary	■
Critical Task Progress	■	Rolled Up Task	▨	Rolled Up Baseline Milestone	◇	External Milestone	◆
Baseline	▨	Rolled Up Critical Task	▨	Rolled Up Progress	■	Deadline	⇩

US Army Corps of Engineers
UPPER GUADALUPE RIVER

ID	❶	Task Name	Start	Finish
77		ITR/QC Cert	04/25/03	05/29/03
78		Final Report	05/30/03	08/07/03
79		**LPP-DDR**	**02/25/03**	**10/22/03**
80		35% Submit (DDR) - LPP	02/25/03	04/23/03
81		COE Review (35%) (DDR) - LPP	04/24/03	05/12/03
82		SCVWD Review (35%) (DDR) - LPP	04/24/03	05/12/03
83		65% Submit (DDR) - LPP	05/13/03	07/11/03
84		COE Review (65%) (DDR) - LPP	07/14/03	07/30/03
85		SCVWD Review (65%) (DDR) - LPP	07/14/03	07/30/03
86		95% Submit (DDR) - LPP	07/31/03	09/01/03
87		ITR Review (95%) (DDR) - LPP	09/02/03	10/01/03
88		SCVWD Review (95%) (DDR) - LPP	09/02/03	10/01/03
89		Final DDR Submit - LPP	10/02/03	10/15/03
90		DDR Cert. - LPP	10/16/03	10/22/03
91		**Real Estate**	**03/04/02**	**03/04/03**
92	▦	R/E Mapping SPN/SPK	03/04/02	07/03/02
93		Gross Appraisal	07/04/02	08/19/02
94		HQ Review	08/20/02	10/18/02
95		MCACES Report	10/21/02	11/15/02
96		RE Report for DDR	11/18/02	01/14/03
97		SPK QC Review	01/15/03	01/22/03
98		SPN Final Report	01/23/03	02/03/03
99		Incorporate into DDR	02/04/03	03/03/03
100		Final R/E Sponsor Maps (SPK)	03/04/03	03/04/03
101		**PCA**	**09/18/03**	**04/01/04**
102		Negotiate PCA	09/18/03	01/15/04
103		Submit PCA to HQ	01/16/04	02/16/04
104		HQUSACE Reviews/Approves PCA	02/17/04	03/17/04
105		Execute PCA	03/25/04	03/31/04
106		SCVWD ACQUIRE RE	04/01/04	04/01/04
107		**CONSTRUCTION Reach 10b**	**04/15/03**	**04/22/04**
108	▦	CBD Notice	04/15/03	05/26/03
109	▦	Issue IFB/Solicitation	05/30/03	07/10/03
110		Bids Evaluation	07/11/03	07/31/03
111		Award Contract	08/01/03	08/07/03
112		Notice to Proceed	08/08/03	08/14/03
113		Construction	08/15/03	04/22/04
114		**Soil Sampling Contract**	**08/16/02**	**10/14/02**

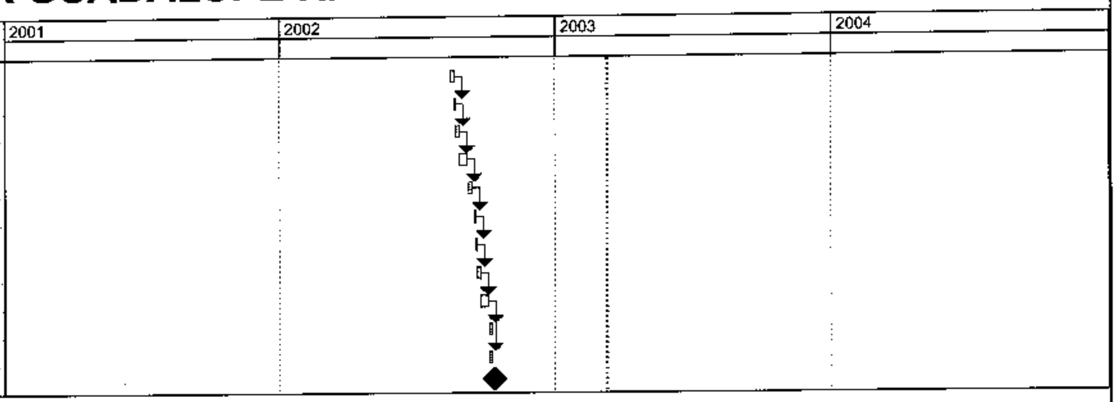


Project: UpperGuad-ddoak
Date: August 2002

Task
Task Progress
Critical Task
Critical Task Progress
Baseline
Milestone
Baseline Milestone
Summary
Rolled Up Task
Rolled Up Critical Task
Rolled Up Milestone
Baseline Summary
Rolled Up Baseline
Rolled Up Baseline Milestone
Rolled Up Progress
Split
External Tasks
Project Summary
External Milestone
Deadline

US Army Corps of Engineers
UPPER GUADALUPE RIVER

ID	Task Name	Start	Finish
115	Complete /Approve Government Estimate	08/16/02	08/21/02
116	Send task order package to Contracting w/MIPR	08/22/02	08/22/02
117	RFP sent to Kleinfelder	08/23/02	08/27/02
118	Proposal received from H. T. Harvey	08/28/02	09/06/02
119	Examine proposal , negotiate costs & adjust scope as needed	09/09/02	09/13/02
120	Prepare revised scope & govt. estimate & obtain approval	09/16/02	09/18/02
121	Send task order to Contracting	09/19/02	09/19/02
122	Second RFP sent to H. T. Harvey	09/20/02	09/24/02
123	Revised proposal received from H. T. Harvey	09/25/02	10/04/02
124	Proposal accepted and memoranda prepared	10/07/02	10/09/02
125	Package sent to Contracting for approval	10/07/02	10/09/02
126	NTP issued	10/14/02	10/14/02



Project: UpperGuad-ddoak
Date: August 2002

Task	▨	Milestone	◆	Rolled Up Milestone	◇	Split	⋯
Task Progress	■	Baseline Milestone	◇	Baseline Summary	☐	External Tasks	▨
Critical Task	▨	Summary	■	Rolled Up Baseline	▨	Project Summary	■
Critical Task Progress	■	Rolled Up Task	▨	Rolled Up Baseline Milestone	◇	External Milestone	◆
Baseline	▨	Rolled Up Critical Task	▨	Rolled Up Progress	■	Deadline	⇩

APPENDIX C

Project Cost Summary

UPPER GUADALUPE RIVER FLOOD PROTECTION PROJECT
COST SUMMARY

		2002-03	2003-04 Reach 10B	2004-05 Reach 12	2005-06 2006-07 Reach 7A & 7B	2007-08 Reach 8	2008-09 Reach 10C	2009-10 2010-11 2011-12 Reach 9 and 10A	2012-13 Reach 11	2013-14 Canoas Creek	2014-15 Ross Creek
PROJECT COSTS	NED										
	LERRD										
	L.E.ROW				*8,018,670*	*7,869,538*	*1,904,760*	*5,028,330*	*3,630,000*		
	Rel.Disp.				*1,345,661*	*266,019*	*1,209,664*	*6,440,605*	*677,197*	*996,463*	*1,734,322*
	TOTAL LERRD				9,364,331	8,135,557	3,114,424	11,468,955	4,307,197	996,463	1,734,322
	CONSTRUCTION (Fed Contr.)		1,369,442		13,062,206	5,199,369	3,274,526	7,577,563	6,237,147	1,048,665	2,499,352
	TOTAL NED		$1,369,442		$22,426,537	$13,334,926	$6,388,950	$19,046,518	$10,544,345	$2,045,128	$4,233,675
	LPP										
	Real Estate			12,118,000			981,240		1,210,000		
	Project Management	*1,052,514*	*300,000*	*200,000*	*400,000*	*200,000*	*200,000*	*600,000*	*200,000*	*200,000*	*200,000*
	Construction			6,823,348			966,038	2,612,628	1,512,589		196,934
	TOTAL LPP	**$1,052,514**	**$300,000**	**$19,141,348**	**$400,000**	**$200,000**	**$2,147,278**	**$3,212,628**	**$2,922,589**	**$200,000**	**$396,934**
	TOTAL COST	**$1,052,514**	**$1,669,442**	**$19,141,348**	**$22,826,537**	**$13,534,926**	**$8,536,228**	**$22,259,146**	**$13,466,934**	**$2,245,128**	**$4,630,609**
District Funds Needed to Proceed	LERRD *L.E.ROW*				7,693,670	5,318,000	165,000	1,864,000	1,953,750		
	LERRD *Rel.Disp*				1,345,661	266,019	1,209,664	6,440,605	677,197	996,463	1,734,322
	Incremental District share on NED		*1,369,442*								
	LPP Real Estate			10,995,000			85,000		651,250		
	Project Management	*1,052,514*	*300,000*	*200,000*	*400,000*	*200,000*	*200,000*	*600,000*	*200,000*	*200,000*	*200,000*
	LPP Construction			6,823,348			966,038	2,612,628	1,512,589		196,934
	Total District Funds Needed	**$1,052,514**	**$1,669,442**	**$18,018,348**	**$9,439,331**	**$5,784,019**	**$2,625,702**	**$11,517,233**	**$4,994,786**	**$1,196,463**	**$2,131,256**

A. TOTAL CORPS AND DISTRICT PROJECT COST* **$109,697,811**
(Excludes Reach A, Fish Barriers, and Reach 6)

		2002-03 Reach A		2004-05 Fish Passage Modifications	2006-07 2007-08 Reach 6
PROJECT COSTS	NED				
	LERRD				
	L.E.ROW				
	Rel.Disp				
	TOTAL LERRD				
	CONSTRUCTION				
	TOTAL NED				
	LPP - Incremental				
	Real Estate				12,892,000
	Project Management				
	Construction	4,400,000		1,400,000	9,243,017
	TOTAL LPP INCREMENTAL	**$4,400,000**		**$1,400,000**	**$22,135,017**
	TOTAL COST	**$4,400,000**		**$1,400,000**	**$22,135,017**
District Funds Needed to Proceed	LERRD *L.E.ROW*				
	LERRD *Rel.Disp*				
	LPP Real Estate Incremental				6,855,000
	Project Management				
	LPP Construction Incremental	4,400,000		1,400,000	9,243,017
	Total District Funds Needed	**$4,400,000**		**$1,400,000**	**$16,098,017**

B. TOTAL DISTRICT ONLY PROJECT COST* **$27,935,017**
(Reach A, Fish Passage Mod, and Reach 6)

TOTAL A & B: **$137,632,828**

TOTAL DISTRICT FUNDS NEEDED TO PROCEED** **$80,662,111**

* *Includes properties already purchased*
** *Excludes properties already purchased*
NOTE: Except for Reaches A and 6, design estimates are excluded

TOTAL AMOUNT OF PROPERTIES ACQUIRED **$18,071,888**
(As of July 12, 2002)

TOTAL NED LERRD	$39,456,249	49.49%
TOTAL NED CONSTRUCTION (Fed Contr.	$40,268,271	50.51%
TOTAL NED	$79,724,520	100.00%

NED LERRDS Rights-of-Way ***$16,994,420***

TOTAL LPP INCREMENTAL	$29,973,291
TOTAL DISTRICT SHARE	**$97,364,557**

APPENDIX D

Project Cost Estimate and Construction Detail by Reach

Data for Reaches 6 through 12 described in this appendix are from the November 1999 Guadalupe River Watershed Planning Study Engineer's Report. Original cost estimates and current (October 2002) dollar values are indicated. The Engineering News Record Construction Cost Index History (Appendix G) was used to update the dollar values.

Reach A – Highway 101 to I-880

Reach A construction details described in this appendix is from the June 2002 Lower Guadalupe River Planning Study Engineer's Report. Construction of this reach is included in the LGRP scope of work and is funded by the District.

The project elements for this reach include minor floodwall construction, vegetation management and four invert stabilization structures construction. A 2-ft floodwall will be constructed on top of both banks at the upstream side of Highway 101. The existing maintenance road will be widened as needed to 18 feet and will include underpasses at Highway 101, Airport Parkway Bridge, and Skyport Drive Bridge. The existing east river bank between Highway 101 and Airport Island Bridge will be excavated at 2:1 slope to leave a 18-foot top of bank access road adjacent to the District right–of-way. The proposed excavation will create a bench area above the low flow channel that will accommodate a depressed maintenance road and riparian mitigation planting. East bank maintenance road underpasses will be constructed at Highway 101 and Airport Island Bridge. All maintenance roads and ramps would be surfaced with 12 inches of aggregate. Four invert stabilization structures will be constructed downstream of I-880 to prevent the channel invert from degrading.

Reach A – Detail Cost Estimate

Reach A - U/S HWY 101 to D/S I-880
Cost Estimate Summary (17,000 cfs Flood Protection)
(All District Cost - 100% LPP - *NOT IN CORPS PROJECT*)

Item	Unit Cost	Unit	Quantity	Amount
Site Preparation				
Clearing and Grubbing	5,500	Acre	4	22,000
Earthwork				
Soil Excavation-	6	C.Y.	7,250	43,500
Concrete Excavation	50	C.Y.	1,500	75,000
Soil Fill (levees)	7	C.Y.	4,300	30,100
Channel Lining Modifications				
Stepped Gabion Lining	160	C.Y.	1,020	163,200
Retaining Wall Anchoring System @ bridges	450	C.Y.	410	184,500
3' floodwalls for Sta, 479+00 to Sta. 483+50	450	C.Y.	150	67,500
Access Ramps (18' wide & 2,900' long)	7	S.F.	52,200	365,400
Utility Relocation/Modification (W. Bank only)				
Outfalls (12in. - 54in.)	3,000	Each	2	6,000
Miscellaneous				
Armoring Aggregate. (6in. on Maint. Rd.)	1	S.F.	277,200	152,460
Subtotal				**$ 1,109,660**
Mobilization (10%)				110,966
Construction Contingencies (10%)				110,966
TOTAL CONSTRUCTION				**$ 1,331,592**
Design (10%)				133,159
Geotechnical (5%)				66,580
Inspection (10%)				133,159
Right-of-Way				-
Mitigation				-
REACH A TOTAL COSTS - 1996 Estimate				**$ 1,664,490**
JUNE 2002 DESIGN PHASE ESTIMATE				**$ 4,400,000**

Fish Passage Modifications – Four Locations

This project constructs fish passage improvements at four separate locations in the upper Guadalupe River Watershed; concrete channel on Guadalupe Creek upstream of Pheasant Creek confluence, Guadalupe Creek downstream of Shannon Creek at Stream Gauge 43, gabion structure on Alamitos Creek at Mazzone Drive and Alamitos Creek at Stream Gauge 16. Project will seek reimbursement from the Corps of Engineers through a 104 credit agreement.

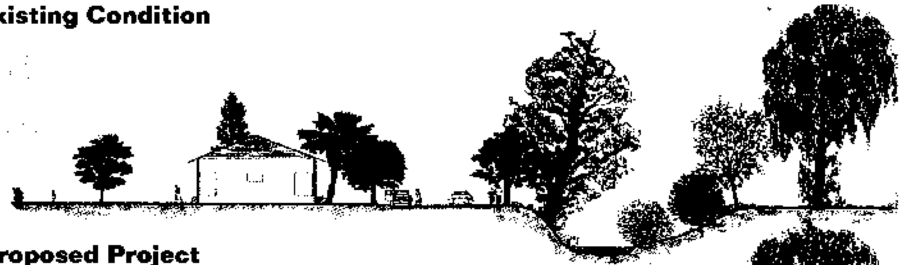
Fish Passage Modifications – Detail Cost Estimate

FISH PASSAGE MODIFICATIONS
Cost Estimate Summary
(All District Cost - 100% LPP - *NOT IN CORPS PROJECT*)

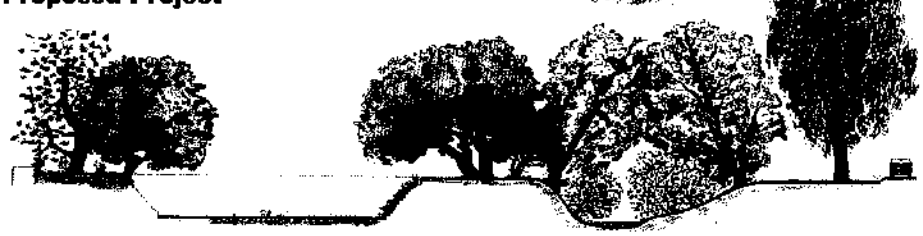
Item	Unit Cost	Unit	Quantity	Amount
Alamitos Creek - Upstream of Mazzone Drive	500,000	L.S.	1	500,000
Guadalupe Creek - Stream Gage Station 43	200,000	L.S.	1	200,000
Guadalupe Creek - Pheasant Creek and Reynolds Road	500,000	L.S.	1	500,000
Alamitos Creek - Stream Gage Station 16	200,000	L.S.	1	200,000
ESTIMATED TOTAL COSTS				**$ 1,400,000**

Typical Section
Reaches 6, 7, and 8 - Between I-280 and Willow Glen Way

Existing Condition



Proposed Project



Reach 6 – I280 to SPRR

This project proposes construction of a bypass channel lined with stepped gabions at a slope of 1:1 on the east side of the river. The bypass channel would be 15 feet deep and 85 feet wide with a cross slope of 2 percent toward the river. The cross slope will create a low-flow area adjacent to the west bank. A 4-foot drop structure at the confluence, just upstream of Interstate 280, will be constructed of mattress gabions.

A 120-foot wide three-span bridge will replace the existing West Virginia Street Bridge. Stepped gabions with 1:1 side slopes would be constructed under the bridge.

Upstream of West Virginia Street, the bank between the bypass and the river will be lowered 8 feet for a length of 800 feet. High flows, will cause the river with the bypass channel to join together.

The lowered bank area and the top of east bank of the bypass channel would be revegetated with native riparian species. The stepped gabions would be revegetated by constructing tree wells.

A continuous maintenance road would be constructed at the top of bank between the existing creek and the bypass and at the bottom of the bypass on the east. Ramps would provide access to the bypass channel bottom. All maintenance roads and ramps would be surfaced with 12inches of aggregate.

Construction of Highway 87 has made the west bank of the natural creek into a levee reach. If soil investigations confirm that the existing levee is stable, the levee will be raised to meet FEMA requirements; if the levee is unstable, it will be reconstructed. Construction of A 12-foot wide maintenance road on top of the levee is planned.

The bypass channel would remove 54 properties, one partial backyard area, and eliminate McLellan Avenue. The intersections at West Virginia Street and Harliss Avenue and at McLellan and Edwards Avenues would be modified. The natural stream would remain undisturbed except at future unanticipated erosion sites.

Reach 6 – Detail Cost Estimate

REACH 6: U/S I-280 to D/S SPTC
Cost Estimate Summary (14,600 cfs Flood Protection)
Gabion Bypass Channel (Preferred Design)
(All District Cost - 100% LPP - *NOT INCLUDED IN CORPS PROJECT*)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	9.9	54,450	1.19	64,861
Remove Residential Sites (56 homes)	7,500	Each	56	420,000	1.19	500,304
Coffer dams installation (fill for 2)	7	C.Y.	300	2,100	1.19	2,502
Coffer dams removal (excavation for 2)	6	C.Y.	300	1,800	1.19	2,144
Earthwork						
Excavation	6	C.Y.	186500	1,119,000	1.19	1,332,953
Fill (gabions and levees)	7	C.Y.	12700	88,900	1.19	105,898
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	6600	1,056,000	1.19	1,257,908
Mattress Gabion Lining (u/s I-280)	160	C.Y.	185	29,600	1.19	35,260
Concrete Lining	450	C.Y.	180	81,000	1.19	96,487
Concrete Wingwalls (d/s SPTC)	450	C.Y.	100	45,000	1.19	53,604
Invert Rock Lining	40	C.Y.	9500	380,000	1.19	452,656
Access Ramps	7	S.F.	27000	189,000	1.19	225,137
Bridges and Culverts						
Bridge Removal	50,000	L.S.	0	-	1.19	-
Bridge Construction (W. Virginia St. byp.)	450	C.Y.	940	423,000	1.19	503,878
Traffic Control	50,000	L.S.	2	100,000	1.19	119,120
Utility Relocation/Modification						
Water Lines Relocation (per SJWC cost estimate)	500,190	L.S.	1	500,190	1.19	595,827
Outfalls (12in. - 54in.)	3,000	EA.	5	15,000	1.19	17,868
Outfalls (60in. - 78in.)	5,000	EA.	0	-	1.19	-
Roadway Replacement						
Remove A/C Pavement (incl. Virginia St. byp.)	2	S.F.	99600	199,200	1.19	237,287
Remove Curb & Gutter	2	L.F.	3430	6,860	1.19	8,172
Remove Sidewalk	2	S.F.	16400	32,800	1.19	39,071
A/C Pavement (McLellan/Edwards, Virginia St.)	5	S.F.	22000	110,000	1.19	131,032
Curb & Gutter	16	L.F.	1100	17,600	1.19	20,965
Sidewalk	6	S.F.	7700	46,200	1.19	55,033
Miscellaneous						
Armoring Aggregate (6in. on Maint. Rd.)	1	S.F.	72900	40,095	1.19	47,761
Gates	800	EA.	7	5,600	1.19	6,671
Fencing	10	L.F.	5700	57,000	1.19	67,898
SUBTOTAL						$ 5,980,297
Mobilization (10%)						598,030
Construction Contingencies (10%)						598,030
TOTAL CONSTRUCTION COSTS						**$ 7,176,356**
Design (10%)						717,636
Geotechnical (5%)						358,818
Inspection (10%)						717,636
RIGHT-OF-WAY - Property Acquisition per Real Estate cost estimate Feb. 2003						12,892,000
41 properties already purchased	6,037,000					
Remaining properties to be purchased (14 full, 4 partial)	$5,775,000					
Acquisition Administration (14 full and 4 partial)	1,080,000					
MITIGATION - Revegetation (on-site)	228,821	L.S.	1	228,821	1.19	272,572
REACH 6 TOTAL COSTS						**$ 22,135,017**

District funds needed to proceed with design and construction (excludes cost of properties already purchased)	**$ 16,098,017**

Reach 7 – SPRR to UPRR

Construction in this reach includes a four-cell 20 x 18-foot RCB culvert under the SPRR tracks. From SPRR to Willow Street, the bottom width varies from 65 to 85 feet under the Highway 87 Bridge. Stepped gabions are proposed on the banks with a slope of 1:1 and rock would be placed on the bottom of the bypass channel. The invert would be sloped 2 percent towards the west bank to create a low-flow channel.

A three-span bridge would be constructed over the bypass channel at Willow Street. From Willow Street to about 300 feet upstream, the bottom width would be 85 feet with stepped gabion bank lining at a 1:1 side slope. Adjacent to Lelong Street, the channel bottom width would be reduced to 30 feet with the side slopes 1:1.

Ramps on the east bank of the bypass would allow access from Willow Street to the 18-foot maintenance road located on the bottom. Between Willow Street and Alma Avenue, a continuous maintenance road would be constructed at the top of bank between the existing creek and the bypass and at the bottom of the bypass channel on the east. All maintenance roads and ramps would be surfaced with 12 inches of aggregate.

The bank between the existing channel and the bypass channel would be lowered about 10 feet from Willow Street to Alma Avenue. These lowered areas would be submerged, connecting the two channels during high flows. The lower banks would be revegetated.

A two-span bridge would be constructed over the bypass channel at Alma Avenue. From Alma Avenue to UPRR, a gabion bypass channel with floodwalls would be constructed. A maintenance easement would be acquired to provide access across the Elk's Lodge. A short floodwall would be constructed just downstream of Alma Avenue along Lelong Street for 300 feet.

The bypass channel construction would require the acquisition of a commercial site upstream of Willow Street between Lelong Street and the existing channel. An easement would be required across the Elk's Lodge parking lot for the bypass channel. The natural stream would remain undisturbed except at future unanticipated erosion sites.

Soil investigation will be performed on the existing west bank levee prior to preparation of construction plans. If the levee is unstable, the levee will be reconstructed.

District LERRD items for this reach include property acquisition, utility relocations/modifications and roadway replacements. All other construction will be Corps' responsibility, including the construction of the SPRR four-cell RCB culvert, the Willow Street Bridge bypass extension and the Alma Avenue Bridge bypass extension[1].

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[1] See Appendix E for Corps' letter dated March 8, 2002, which relate to construction, not relocation, costs for Willow Street Bridge and Alma Avenue Bridge bypass extensions.

Reach 7A – Detail Cost Estimate

Reach 7A - D/S SPTC to D/S W. Alma Avenue
Cost Estimate Summary (14,600 cfs Flood Protection)
Gabion Bypass Channel (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	7.6	41,800	1.19	49,792
Remove Commercial Sites	3	S.F.	46,375	139,125	1.19	165,726
Earthwork						
Excavation	6	C.Y.	249,162	1,494,972	1.19	1,780,811
Fill	7	C.Y.	13,447	94,129	1.19	112,127
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	8,130	1,300,800	1.19	1,549,514
Invert Rock Lining	40	C.Y.	6,175	247,000	1.19	294,227
Access Ramps	7	S.F.	14,040	98,280	1.19	117,071
Erosion Repair (Sta. 762+00 to Sta. 764+50)						
Boulders (3 ft. to 4 ft. DIA)	80	Each	1,350	108,000	1.19	128,650
Transport of Boulders (assume $55/hr, 6 hrs per trip)	230	20-ton	270	62,100	1.19	73,974
Boulder placement	100,000	L.S.	1	100,000	1.19	119,120
Vegetated geogrid	170	C.Y.	340	57,800	1.19	68,851
Fascines	3	L.F.	450	1,125	1.19	1,340
Bridges and Culverts						
Wingwalls & Retaining walls (SPTC, Route 87)	450	C.Y.	540	243,000	1.19	289,462
Shoring (underneath Route 87)	11	S.F.	7,200	79,200	1.19	94,343
Culvert Construction (SPTC)	450	C.Y.	1,265	569,250	1.19	678,091
Temporary railroad relocation for SPTC culvert	1,000,000	L.S.	1	1,000,000	1.19	1,191,200
Bridge Construction (Willow St.)	450	C.Y.	950	427,500	1.19	509,238
Traffic Control (Willow St.-for bypass & sewer pipe relocation)	100,000	L.S.	1	100,000	1.19	119,120
Utility Relocation/Modification (LERRDS)						
Water Lines Relocation (per SJWC cost estimate)	109,472	L.S.	1	109,472	1.19	130,403
Sanitary sewer relocation @ Willow St (250')	50,000	L.S.	1	50,000	1.19	59,560
Outfalls (12in. - 54in.)	3,000	Each	12	36,000	1.19	42,883
Roadway Replacement (LERRDS)						
Remove A/C Pavement	2	S.F.	89,040	178,080	1.19	212,129
Remove Curb & Gutter (Willow Street)	2	L.F.	350	700	1.19	834
Remove Sidewalk	2	S.F.	2,450	4,900	1.19	5,837
A/C Pavement (Willow Street)	5	S.F.	8,450	42,250	1.19	50,328
Curb & Gutter	16	L.F.	350	5,600	1.19	6,671
Sidewalk	6	S.F.	2,450	14,700	1.19	17,511
Miscellaneous						
Armoring Aggregate. (6in. on Maint. Rd)	1	S.F.	52,200	28,710	1.19	34,199
Gates	800	Each	7	5,600	1.19	6,671
Fencing	10	L.F.	3,200	32,000	1.19	38,118
SUBTOTAL						**$7,947,800**
Mobilization (10%)						794,780
Construction Contingencies (10%)						794,780
TOTAL CONSTRUCTION						**$9,537,360**
Geotechnical (5%)						476,868
Inspection (10%)						953,736
Utility Relocation/Modification Design Cost (LERRDS)						27,942
Roadway Replacement Design Cost (LERRDS)						35,197
RIGHT of WAY - Information for both Reaches 7A&B						8,018,670
Already acquired 5 properties	325,000					
To be acquired (5 full take, 3 partial)	7,213,670					
Acquistion Administration	480,000					
MITIGATION (Revegetation: 0.95 acres urban forest, 2.49 acres riparian, and 0.13 acres mixed trees - Total 3.57 acres)						
Revegetation (on-site)	241,200	L.S.	1	241,200	1.19	287,318
REACH 7A TOTAL COSTS						**$19,337,090**

NED/LPP ITEMIZATION (same for this reach)

NED	LERRD	8,807,903	$19,337,090
	CONSTRUCTION	10,529,187	

Reach 7B – Detail Cost Estimate

Reach 7B - D/S W. Alma Avenue to D/S UPRR
Cost Estimate Summary (14,600 cfs Flood Protection)
Gabion Bypass Channel (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	0.2	1,100	1.19	1,310
Earthwork						
Excavation	6	C.Y.	40,500	243,000	1.19	289,462
Fill (for behind gabions)	7	C.Y.	9,240	64,680	1.19	77,047
Fill (for natural west bank levee)	7	C.Y.	320	2,240	1.19	2,668
Channel Lining Modifications						
Stepped gabion Lining	160	C.Y.	2,700	432,000	1.19	514,599
Concrete Cutoff Wall For Stepped Gabions	450	C.Y.	240	108,000	1.19	128,650
Floodwalls (E. Bank Of Gabion Bypass)	450	C.Y.	490	220,500	1.19	262,660
Access Ramps	7	S.F.	450	3,150	1.19	3,752
Alma Avenue Bridge						
Bridge Construction	450	C.Y.	700	315,000	1.19	375,228
Shoring for Abutments	11	S.F.	3,200	35,200	1.19	41,930
Traffic Control	100,000	L.S.	1	100,000	1.19	119,120
Utility Relocation/Modification (LERRDS)						
Water Lines Relocation (per SJWC cost estim.)	73,810	L.S.	1	73,810	1.19	87,923
Outfalls (12in. - 54inc.)	3,000	Each	0	-	1.19	0
Roadway Replacement (LERRDS)						
Remove A/C Pavement	2	S.F.	79,800	159,600	1.19	190,116
Remove Curb & Gutter (W. Alma Avenue)	2	L.F.	240	480	1.19	572
Remove Sidewalk	2	S.F.	960	1,920	1.19	2,287
A/C Pavement (Alma and Elk's Lodge)	5	S.F.	13,200	66,000	1.19	78,619
Curb & Gutter (W. Alma Avenue)	16	L.F.	240	3,840	1.19	4,574
Sidewalk	6	S.F.	960	5,760	1.19	6,861
Miscellaneous						
Armoring Aggregate. (6in. on Maint. Rd)	1	S.F.	14,600	8,030	1.19	9,565
Gates	800	Each	1	800	1.19	953
Fencing	10	L.F.	720	7,200	1.19	8,577
SUBTOTAL						**$2,206,472**
Mobilization (10%)						220,647
Construction Contingencies (10%)						220,647
TOTAL CONSTRUCTION						**$2,647,767**
Geotechnical (5%)						132,388
Inspection (10%)						264,777
Utility Relocation/Modification Design Cost (LERRDS)						10,551
Roadway Replacement Design Cost (LERRDS)						33,964
RIGHT of WAY included in Reach 7A cost estimate table						
MITIGATION COSTS (Revegetation: ? Acres)						-
REACH 7B TOTAL COSTS						**$3,089,446**

District Funds Needed to Construct Reaches 7A & &B	
LERRDS - lands, easements, right of way	7,693,670
LERRDS - relocation, disposal	1,345,661
LPP Incremental	0
TOTAL	9,039,331

NED/LPP ITEMIZATION (same for this reach)			
NED	LERRD	556,428	3,089,446
	CONSTRUCTION	2,533,019	

Reach 8 – UPRR to Willow Glen Way

The proposed bypass channel will be constructed to the east of the river and has an 85-foot bottom width with 1:1 stepped gabion side slopes. The bottom of the bypass will have a cross slope of 2 percent towards the west bank to create a low-flow channel. A triple-cell 20- by 17-foot RCB culvert would be constructed under UPRR. The construction would require the removal of 23 properties on the west side of Mackey Avenue. Existing sidewalks and street trees on Mackey Avenue would not be affected by construction. The intersection of Mackey Avenue, Willow Glen Way, and Northern Road would be improved such that Northern Road would end at Mackey Avenue, and Mackey Avenue would extend to Willow Glen Way. It is anticipated that the District will enter into an agreement with the City to cost share on the streets realignment. The natural stream would remain undisturbed except at future unanticipated erosion sites.

A maintenance road would be located in the bypass channel invert. Ramps would provide access to the depressed maintenance roads at the upstream and downstream ends of the reach. The maintenance roads and ramps would be surfaced with 12 inches of aggregate.

The entrance to the bypass would be located downstream of Willow Glen Way. During the 1 percent flow, the bypass inlet structure would be designed to divert 9,600 cfs, leaving 5,000 cfs to flow in the existing channel. A drop structure in the bypass channel would control the amount of flow entering the bypass for a given water surface elevation in the existing channel. The existing channel capacity is controlled by constrictions at Alma Avenue, UPRR and by heavy vegetation.

The drop structure would be located near the Willow Glen Way Bridge and would be constructed of stepped gabions. The invert of the drop structure would be designed such that flow less than approximately 1500 cfs would continue in the natural channel. This would reduce the probability of fish being stranded in the bypass channel.

The invert of the bypass channel would be up to 4 feet higher than the existing channel bottom. The existing channel east bank would be protected from high velocities by placing rock from the toe to the top of bank for about 30 feet downstream of the entrance.

The stepped gabions will be revegetated with appropriate riparian species.

District LERRD items for this Reach include property acquisition, utility relocations/modifications and roadway replacements. All other construction will be Corps' responsibility, including the construction of the UPRR triple-cell RCB culvert.

Reach 8 – Detail Cost Estimate

Reach 8: D/S UPRR to D/S Willow Glen Way
Cost Estimate Summary (14,600 cfs Flood Protection)
Gabion Bypass Channel (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	4.7	25,850	1.19	30,793
Remove residential sites	7,500	Each	23	172,500	1.19	205,482
Installation of coffer dam (fill for 2)	7	C.Y.	300	2,100	1.19	2,502
Removal of coffer dam (removal of 2)	6	C.Y.	300	1,800	1.19	2,144
Earthwork						
Excavation	6	C.Y.	107070	642,420	1.19	765,251
Fill	7	C.Y.	5190	36,330	1.19	43,276
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	4800	768,000	1.19	914,842
Invert Rock Lining	40	C.Y.	765	30,600	1.19	36,451
Access Ramps	7	S.F.	5400	37,800	1.19	45,027
Bridges and Culverts						
Culvert Construction (UPRR)	450	C.Y.	950	427,500	1.19	509,238
Temporary railroad relocation	600,000	L.S.	1	600,000	1.19	714,720
Wingwalls (u/s UPRR)	450	C.Y.	225	101,250	1.19	120,609
Retaining walls (bypass weir)	450	C.Y.	570	256,500	1.19	305,543
Utility Relocation/Modification (LERRDS)						
Utility Relocation	122,600	L.S.	1	122,600	1.19	146,041
Outfalls (12in. - 54in.)	3,000	Each	4	12,000	1.19	14,294
Roadway Replacement (LERRDS)						
Remove A/C Pavement	2	S.F.	4900	9,800	1.19	11,674
Remove Curb & Gutter	2	L.F.	280	560	1.19	667
Remove Sidewalk	2	S.F.	1960	3,920	1.19	4,670
Miscellaneous						
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	22500	12,375	1.19	14,741
Gates	800	Each	2	1,600	1.19	1,906
Fencing	10	L.F.	1450	14,500	1.19	17,272
SUBTOTAL						**$3,907,143**
Mobilization (10%)						390,714
Construction Contingencies (10%)						390,714
TOTAL CONSTRUCTION						**$4,688,572**
Geotechnical (5%)						234,429
Inspection (10%)						468,857
Utility Relocation/Modification Design Cost (LERRDS)						19,240
Roadway Replacement Design Cost (LERRDS)						2,041
RIGHT-OF-WAY - Property Acquisition per Real Estate cost estimate Feb. 2003						7,869,538
Already purchased (15 full takes)	2,551,538					
To be acquired (9 full takes)	4,778,000					
Acquisition Administration	540,000					
MITIGATION - Revegetation (on-site)	43,862	L.S.	1	43,862	1.19	52,248
REACH 8 TOTAL COSTS						**$13,334,926**

District Funds Needed to Proceed with Construction

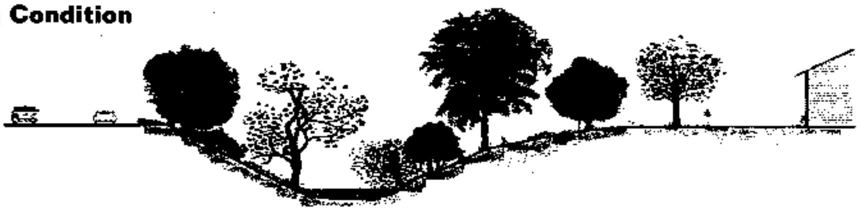
LERRDS - lands, easements, right of way	5,318,000
LERRDS - relocation, disposal	266,019
LPP Incremental	0
TOTAL	5,584,019

NED/LPP ITEMIZATION (same for this reach)

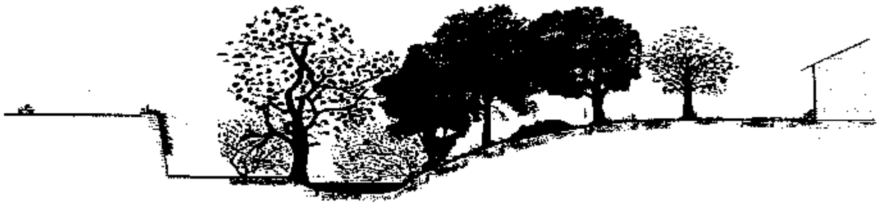
NED	LERRDS		**8,135,557**
	Land, Easement, ROW	7,869,538	
	Relocation, Disposal	266,019	
	CONSTRUCTION		**5,199,369**

Typical Section
Reaches 9 and 10 - Between Willow Glen Way and Canoas Creek

Existing Condition



Proposed Project



Reaches 9 – Willow Glen Way to Curtner Avenue and Reach 10A – Curtner Avenue to Southbound Almaden Expressway

The bridge at Willow Glen Way would be replaced with a 120-foot wide bridge. An 18-foot wide depressed maintenance road would be located on the east bank under the bridge 10 feet above the channel bottom. The east bank would be protected with stepped gabions on a 1:1 slope and the west bank would conform to existing sacked concrete slopes upstream and downstream of the bridge. It is anticipated that the District will enter into an agreement with the City to cost share on the new bridge.

From Willow Glen Way to the SJWC property (700 feet upstream), the east bank would be widened to 70 feet creating a bench 5 to 12 feet above the channel bottom. The west bank and the lower east bank would be undisturbed. An 18-foot maintenance road and 22-foot wide floodway would be located on the depressed bench. The remainder of the bench would be revegetated. The bench would slope 2 percent towards the existing channel for drainage.

A 500-foot bypass channel (Pine bypass) would be constructed upstream of the SJWC property. The bottom width of the bypass would be 40 feet and the elevation would be 9 feet above the channel bottom. The east and west banks of the bypass would be stepped gabions on a 1:1 slope conforming to the slopes of upstream and downstream depressed bench. The depressed maintenance road would continue along the east toe of the slope. Six properties, two partial backyard areas, and two businesses would be removed to construct the bypass channel. The top of east bank of the bypass channel would be revegetated with native plants. The natural channel would be undisturbed except at future unanticipated erosion sites.

An excavated bench would continue upstream of the bypass and end as the depressed maintenance road ramps up to Almaden Road. The upper and lower east banks would be protected with stepped gabions on a 1:1 slope. The existing east bank SCSP in the vicinity would be replaced with cribwalls. The west bank would be undisturbed except at future unanticipated erosion sites.

Along Almaden Road, the channel would be widened to the east and the bank would be protected with cribwalls. The channel widening is limited by the Almaden Road and its future widening. A maintenance road would be located on the depressed bench. A maintenance ramp from Almaden Road would provide access to the bench. The west bank would be undisturbed except at future unanticipated erosion sites.

The Malone Road bridge was constructed by the City in 1989 and would require no further structural improvements. Upstream of Malone Road, the concrete on the east bank would be replaced with cribwalls and a depressed bench would be constructed which would continue through the bridge.

As the river meanders away from Almaden Road, a 500-foot long bypass channel (Malone bypass) would be constructed. The bypass channel would have a bottom width of 40 feet and would be 5 feet above the channel bottom. The east bank would be protected with cribwalls and the west with stepped gabions. Several large sycamore trees at the top of the existing east bank would be preserved. The natural channel would be undisturbed except at future unanticipated erosion sites.

At the remainder of the reach, the channel would be widened to the east creating a bench varying in width from 18 feet to 40 feet and 5 to 6 feet above the channel bottom. The lower east bank would remain as existing and the upper bank would be protected with cribwalls on a 1:6 side slope. An 18-foot maintenance road would be located on the bench. A portion of the bench would be revegetated with riparian vegetation. The west bank would be undisturbed except at future unanticipated erosion sites.

The Curtner Avenue Bridge would be replaced with a three-span bridge. The maintenance road would continue under the new bridge and have a turn around near Almaden Expressway.

Erosion is active on the west bank near Pine Avenue and on a 250-foot length of bank upstream of Malone Road. These sites would be repaired with stepped gabions conforming to the existing slopes.

District LERRD items for this Reach include property acquisition, removal and replacement of Willow Glen Way and Curtner Avenue Bridges, utility relocations/modifications and roadway replacements. All other construction will be Corps' responsibility. However, the District will be fully responsible for funding the construction of the vortex rock weirs in Reach 9 and 20 percent of the mitigation for Reach.

Reach 9 LPP – Detail Cost Estimate

Reach 9: D/S Willow Glen Way to D/S Curtner Avenue
Cost Estimate Summary (14,600 cfs Flood Protection) LPP
Widened Cribwall Channel With Mitigation Bench (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	7	38,500	1.19	45,861
Remove residential sites	7,500	EA.	11	82,500	1.19	98,274
Coffer dams installation (fill for 6)	7	C.Y.	900	6,300	1.19	7,505
Coffer dams removal (excavation for 6)	6	C.Y.	900	5,400	1.19	6,432
Earthwork						
Structural excavation (u/s Malone, d/s Curtner, d/s SB Almaden Expwy)	50	C.Y.	650	32,500	1.19	38,714
Excavation	6	C.Y.	117,110	702,660	1.19	837,009
Fill (includes fill behind cribwall)	7	C.Y.	17,870	125,090	1.19	149,007
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	6,655	1,064,800	1.19	1,268,390
Invert Rock Lining	40	C.Y.	980	39,200	1.19	46,695
Cribwall	20	S.F.	54,365	1,087,300	1.19	1,295,192
Shoring for cribwall	11	S.F.	66,625	732,875	1.19	873,001
Access Ramps	7	S.F.	14,400	100,800	1.19	120,073
Vortex Rock Weirs (5 sites)						
Boulders (3 ft. to 4 ft. DIA)	80	EA.	82	6,560	1.19	7,814
Transport of Boulders ($55/hr; 6 hrs per trip)	230	20-ton	16	3,680	1.19	4,384
Boulder Placement (assume 1 hr/boulder)	147	EA.	82	12,038	1.19	14,340
Erosion Repair (Sta. 831+70 to 834+70; 839+80 to 842+00)						
Boulders (3 ft. to 4 ft. DIA)	80	EA.	1,560	124,800	1.19	148,662
Transport of Boulders (assume 20-ton truck at $55/hr and 6 hours per trip)	230	20-ton	310	71,300	1.19	84,933
Boulder placement	120,000	L.S.	1	120,000	1.19	142,944
Vegetated geogrid	170	C.Y.	390	66,300	1.19	78,977
Fascines	3	L.F.	520	1,300	1.19	1,549
Wilow Glen Way Bridge-District Contribution Only. Total bridge construction=$1,875,000. $1.5M paid by Caltrans HBRR Grant, $142,500 CSJ portion						
Bridge Removal	20,000	L.S.	1	20,000	1.00	20,000
Bridge Replacement	128,478	L.S.	1	128,478	1.00	128,478
Traffic Control	20,000	L.S.	1	20,000	1.00	20,000
Utility Relocation/Modification						
Utility Relocation (2 wells, booster pumps, piping etc)	1,327,780	L.S.	1	1,327,780	1.19	1,581,652
Outfalls (12in. - 54in.)	3,000	EA.	2	6,000	1.19	7,147
Outfalls (60in. - 78in.)	5,000	EA.	1	5,000	1.19	5,956
Miscellaneous						
Guardrail (next to cribwall locations)	50	L.F.	3,500	175,000	1.19	208,460
Traffic Control (detour for flood control work)	50,000	L.S.	3	150,000	1.19	178,680
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	82,800	45,540	1.19	54,247
Gates	800	EA.	4	3,200	1.19	3,812
Fencing	10	L.F.	5,000	50,000	1.19	59,560
SUBTOTAL						**$7,537,748**
Mobilization (10%)						753,775
Construction Contingencies (10%)						753,775
TOTAL CONSTRUCTION						**$9,045,298**
Geotechnical (5%)						452,265
Inspection (10%)						904,530
Willow Glen Way Bridge District Internal Cost						281,250
Utility Relocation/Modification Design Cost						191,371
RIGHT of WAY - Property Acquisition per Real Estate cost estimate Feb. 2003						4,859,350
Residential sites (12 already puchased)	3,164,350					
Remaining properties and easements	1,055,000					
Acquisition Administration	640,000					
MITIGATION - Revegetation (on-site)	151,525	L.S.	1	151,525	1.19	180,497
REACH 9 TOTAL COSTS (LPP)						**$17,557,060**

Reach 9 NED – Detail Cost Estimate

Reach 9: D/S Willow Glen Way to D/S Curtner Avenue
Cost Estimate Summary (14,600 cfs Flood Protection)
Widened Cribwall Channel With Mitigation Bench (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	6.3	34,650	1.19	41,275
Remove residential sites	7,500	Each	11	82,500	1.19	98,274
Coffer dams installation (fill for 6)	7	C.Y.	900	6,300	1.19	7,505
Coffer dams removal (excavation for 6)	6	C.Y.	900	5,400	1.19	6,432
Earthwork						
Structural excavation	50	C.Y.	650	32,500	1.19	38,714
Excavation	6	C.Y.	99,160	594,960	1.19	708,717
Fill (includes fill behind cribwall)	7	C.Y.	16,480	115,360	1.19	137,417
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	4,599	735,840	1.19	876,533
Invert Rock Lining	40	C.Y.	980	39,200	1.19	46,695
Cribwall	20	S.F.	27,500	550,000	1.19	655,160
Permanent concrete shoring for cribwall	400	C.Y.	650	260,000	1.19	309,712
Access Ramps	7	S.F.	14,400	100,800	1.19	120,073
Vortex Rock Weirs (5 sites)						
LPP - Boulders (3 ft. to 4 ft. DIA)	80	Each	82	6,560	1.19	7,814
LPP - Transport of Boulders $55/hr, 6 hrs per trip	230	20-ton	16	3,680	1.19	4,384
LPP - Boulder placement (assume 1 hr/boulder)	147	Each	82	12,038	1.19	14,340
Erosion Repair (Sta. 831+70 to 834+70 and Sta.839+80 to 842+00)						
Boulders (3 ft. to 4 ft. DIA)	80	Each	1,560	124,800	1.19	148,662
Transport of Boulders ($55/hr; 6 hrs per trip)	230	20-ton	310	71,300	1.19	84,933
Boulder placement	120,000	L.S.	1	120,000	1.19	142,944
Vegetated geogrid	170	C.Y.	390	66,300	1.19	78,977
Fascines	3	L.F.	520	1,300	1.19	1,549
Wilow Glen Way Bridge-District Contribution Only. Total bridge construction=$1,875,000. $1.5M paid by Caltrans HBRR Grant, $142,500 CSJ portion						
Bridge Removal	20,000	L.S.	1	20,000	1.00	20,000
Bridge Replacement	128,478	L.S.	1	128,478	1.00	128,478
Traffic Control	20,000	L.S.	1	20,000	1.00	20,000
Utility Relocation/Modification (LERRDS)						
Utility Relocation (2 wells, booster pumps, piping etc)	1,327,780	L.S.	1	1,327,780	1.19	1,581,652
Outfalls (12in. - 54in.)	3,000	Each	2	6,000	1.19	7,147
Outfalls (60in. - 78in.)	5,000	Each	1	5,000	1.19	5,956
Miscellaneous						
Guardrail (next to cribwall locations)	50	L.F.	2,300	115,000	1.19	136,988
Traffic Control (detour for flood control work)	50,000	L.S.	3	150,000	1.19	178,680
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	61,200	33,660	1.19	40,096
Gates	800	Each	4	3,200	1.19	3,812
Fencing	10	L.F.	5,000	50,000	1.19	59,560
SUBTOTAL (NED)						**$5,685,940**
Mobilization (10%)						568,594
Construction Contingencies (10%)						568,594
TOTAL CONSTRUCTION (NED)						**$6,823,128**
Geotechnical (5%)						341,156
Inspection (10%)						682,313
Willow Glen Way Bridge District Internal Cost (LERRDS)						281,250
Utility Relocation/Modification Design Cost (LERRDS)						191,371
RIGHT of WAY - Property Acquisition per Real Estate cost estimate Feb. 2003						4,859,350
Residential sites (12 already puchased)	3,164,350					
Remaining properties and easements	1,055,000					
Acquisition Administration	640,000					
MITIGATION - Revegetation (on-site-Approx 0.8 LPP)	121,220	L.S.	1	121,220	1.19	144,397
REACH 9 TOTAL COSTS (NED)						**$14,965,465**

District Funds Needed to Proceed with Construction

LERRDS - lands, easements, right of way	1,695,000
LERRDS - relocation, disposal	4,548,383
LPP Incremental	2,591,595
TOTAL	8,834,978

NED/LPP ITEMIZATION

NED	LERRDS		**9,407,733**
	Land, Easement, ROW	4,859,350	
	Relocation, Disposal	4,548,383	
	CONSTRUCTION		**5,557,732**
LPP INCREMENTAL			**2,591,595**

Reach 10A – Detail Cost Estimate

Reach 10A: D/S Curtner Avenue to Southbound Almaden Expressway
Cost Estimate Summary (14,600 cfs Flood Protection)
Widened Cribwall Channel With Mitigation Bench (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	1.4	7,700	1.19	9,172
Remove residential sites	7,500	Each	0	-	1.19	0
Coffer dams installation (fill for 2)	7	C.Y.	300	2,100	1.19	2,502
Coffer dams removal (excavation for 2)	6	C.Y.	300	1,800	1.19	2,144
Earthwork						
Excavation (E.B. w/bench @ 5' above invert)	6	C.Y.	22,020	132,120	1.19	157,381
Fill (includes fill behind cribwall)	7	C.Y.	7,815	54,705	1.19	65,165
Channel Lining Modifications						
Cribwall	20	S.F.	22,580	451,600	1.19	537,946
Shoring for cribwall	11	S.F.	29,725	326,975	1.19	389,493
Access Ramps	7	S.F.	31,500	220,500	1.19	262,660
Bridges and Culverts (LERRDS)						
Bridge Removal (Curtner Avenue)	50,000	L.S.	1	50,000	1.19	59,560
Curtner Avenue Bridge Replacement	450	C.Y.	1,750	787,500	1.19	938,070
Shoring for Curtner Avenue Bridge	11	S.F.	4,200	46,200	1.19	55,033
Traffic Control (incl. 1 site @ Almaden Rd.)	50,000	L.S.	2	100,000	1.19	119,120
Utility Relocation/Modification (LERRDS)						
Outfalls (12in. - 54in.)	3,000	Each	3	9,000	1.19	10,721
Roadway Replacement (Curtner Avenue Bridge) (LERRDS)						
A/C Pavement	5	S.F.	10,500	52,500	1.19	62,538
Curb & Gutter	16	L.F.	300	4,800	1.19	5,718
Sidewalk	6	S.F.	1,500	9,000	1.19	10,721
Miscellaneous						
Armoring Aggregate. (6 in. Maint. Rd.)	1	S.F.	25,845	14,215	1.19	16,933
Concrete drain structure under maint. rd.	5,000	L.S.	1	5,000	1.19	5,956
Fencing	10	L.F.	1,200	12,000	1.19	14,294
SUBTOTAL						**$2,725,127**
Mobilization (10%)						272,513
Construction Contingencies (10%)						272,513
TOTAL CONSTRUCTION						**$3,270,152**
Geotechnical (5%)						163,508
Inspection (10%)						327,015
Bridges and Culverts Design Cost (LERRDS)						140,614
Utility Relocation/Modification Design Cost (LERRDS)						1,286
Roadway Replacement Design Cost (LERRDS)						9,477
RIGHT of WAY - Property Acquisition (LERRDS)						169,000
To Be Acquired Maintenance Easement	104,000					
Acquisition Administration	65,000					
MITIGATION - Revegetation (on-site)	17,657	L.S.	1	17,657	1.19	21,033
REACH 10A TOTAL COSTS						**$4,102,086**

District Funds Needed to Proceed with Construction

LERRDS - lands, easements, right of way	169,000
LERRDS - relocation, disposal	1,892,222
LPP Incremental	21,033
TOTAL	2,082,255

NED/LPP ITEMIZATION

NED	LERRDS			**2,061,222**
		Land, Easement, R	169,000	
		Relocation, Dispos	1,892,222	
	CONSTRUCTION			**2,019,831**
LPP INCREMENTAL				**21,033**

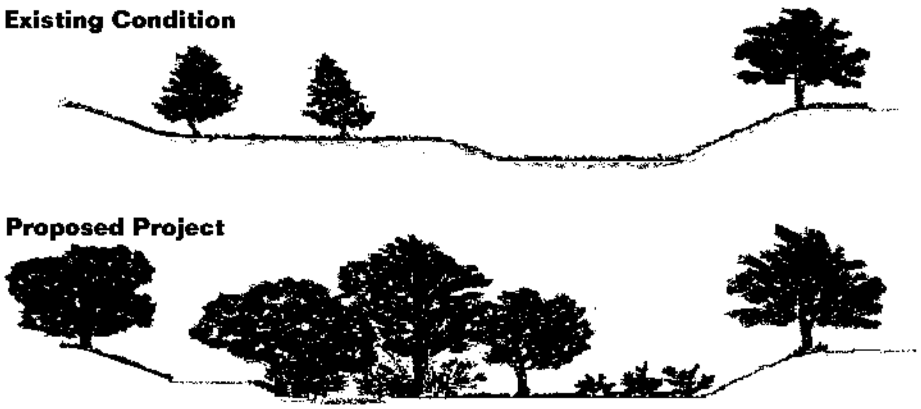
Reach 10 B – Southbound Almaden Expressway to Stream Gage Station No. 23B and Reach10C – Stream Gage Station No. 23B to to Capitol Expressway

Reach 10B is adequate to contain the 1 percent flow except between southbound and northbound Almaden Expressway. In this area, the west bank does not have adequate freeboard. A levee would be constructed up to 4 feet high with a top width of 12 feet and 2:1 side slopes. The alignment would meander to avoid trees. A 4-foot floodwall would be constructed at the Lincoln Avenue overpass and conform to the levee. At the channel invert, a 5-foot wide riparian vegetation corridor would be planted; the low-flow channel would be constructed.

Upstream of northbound Almaden Expressway a maintenance road would be established on the existing east bench. Portions of the bench would be excavated to provide a larger revegetation area. Existing rock lining at the channel bottom would be relocated and reformed to create a low-flow channel. A ramp just upstream of northbound Almaden Expressway would provide access to the maintenance road. The weir at Stream Gage Station No. 23B would be re-located to downstream of northbound Almaden Expressway.

There are no LERRD construction items in Reach 10B. All construction will be Corps' responsibility. However, the District will be fully responsible for funding the construction of the vortex rock weirs.

Typical Section
Reaches 10 B – Along Almaden Expressway upstream of Canoas Creek



In Reach 10C, upstream of Stream Gage Station No. 23B, the east bank will be excavated and a bench varying from 20 to 58 feet wide would be created 8 feet above the channel bottom. The west bank and lower east bank would remain undisturbed except at future unanticipated erosion sites. The upper east bank would be lined with stepped gabions at a 1:1 side slope. An 18-foot maintenance road would be located on the bench at the toe of the upper slope. The remainder of the bench would be revegetated. Ramps would provide access from Hillsdale Avenue to the channel. Excavation at Valley View Packing plant would begin after the plant has ceased operations permanently.

A depressed 18-foot maintenance road on the east bank will continue to Capitol Expressway. The east bank would be widened to provide 1 percent flow capacity under Capitol Expressway. The west bank would remain undisturbed and barren areas revegetated. The bank above the maintenance road would be lined with cribwalls at a 1:6 slope up to the top of bank. The bank below the maintenance would be lined with stepped gabions.

The concrete drop structure and rubble downstream of Hillsdale Avenue which acts as a fish barrier would be removed and the channel bottom would be excavated to upstream of Capitol Expressway to create a continuously sloping bottom for fish passage. A low-flow channel would be constructed.

District LERRD items for this Reach include property acquisition, removal of Hillsdale Avenue Bridge and utility relocations/modifications. All other construction will be Corps' responsibility. However, the District will be fully responsible for funding the construction of the vortex rock weirs and mitigation, and partially responsible for funding the clearing and grubbing, the excavation, and the property acquisition.

Reach 10 B – Detail Cost Estimate

Reach 10B: D/S Southbound Almaden Expressway to D/S Northbound Almaden Expressway
Cost Estimate Summary (12,400 cfs Flood Protection)
Levee/Floodwall Combination (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	1	5,500	1.19	6,552
Coffer dams installation (fill for 4)	7	C.Y.	600	4,200	1.19	5,003
Coffer dams removal (excavation for 4)	6	C.Y.	600	3,600	1.19	4,288
Earthwork						
Excavation	6	C.Y.	455	2,730	1.19	3,252
LPP - Fill	7	C.Y.	1630	11,410	1.19	13,592
Channel Lining Modifications						
Floodwall	450	C.Y.	185	83,250	1.19	99,167
Stepped Gabions	160	C.Y.	400	64,000	1.19	76,237
Rock Groins in the creekbed	60	C.Y.	225	13,500	1.19	16,081
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	52200	28,710	1.19	34,199
Access Ramps	7	S.F.	4500	31,500	1.19	37,523
Vortex Rock Weirs (3 sites & 2 side groin sites)						
LPP - Boulders (3 ft. to 4 ft. DIA)	80	Each	68	5,440	1.19	6,480
LPP - Transport of Boulders ($55/hr; 6 hr per trip)	230	20-ton	13	2,990	1.19	3,562
LPP - Boulder placement	147	Each	68	9,983	1.19	11,892
SUBTOTAL						**$317,828**
Mobilization (10%)						31,783
Construction Contingencies (10%)						31,783
TOTAL CONSTRUCTION COSTS						**$381,393**
Geotechnical (5%)						19,070
Inspection (10%)						38,139
RIGHT-OF-WAY COSTS						0
MITIGATION COSTS - Revegetation (on-site)	781430	L.S.	1	781430	1.1912004	930,840
REACH 10B TOTAL COSTS						**$1,369,442**

District Funds Needed to Proceed with Construction

District will construct Reach 10B and
seek reimbursement from the Corps via
a Section 104 Agreement.

NED/LPP ITEMIZATION

NED	LERRDS	-
	CONSTRUCTION	$1,369,442
LPP INCREMENTAL		

Reach 10 C – Detail Cost Estimate

Reaches 10C: Stream Gage Station 23B to Capitol Expressway
Cost Estimate Summary (12,400 cfs Flood Protection)
Widened Gabion Channel With Mitigation Bench (Preferred Design)

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	4	22,000	1.19	26,206
Clearing and Grubbing	5,500	ACRE	3.1	17,050	1.19	20,310
Coffer dams installation (fill for 3)	7	C.Y.	450	3,150	1.19	3,752
Coffer dams removal (excavation for 3)	6	C.Y.	450	2,700	1.19	3,216
Earthwork						
Structural excavation (d/s & below Hillsdale)	50	C.Y.	1,100	55,000	1.19	65,516
Excavation	6	C.Y.	100,000	600,000	1.19	714,720
Excavation	6	C.Y.	72,810	436,860	1.19	520,388
Fill behind gabions	7	C.Y.	8,700	60,900	1.19	72,544
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	2,980	476,800	1.19	567,964
Additional Stepped Gabion Lining	160	C.Y.	2,793	446,880	1.19	532,324
Invert Rock Lining	40	C.Y.	4,690	187,600	1.19	223,469
Cribwall	20	S.F.	10,000	200,000	1.19	238,240
Shoring for cribwall	11	S.F.	10,000	110,000	1.19	131,032
Access Ramps	7	S.F.	11,700	81,900	1.19	97,559
Vortex Rock Weirs (3 sites)						
Boulders (3 ft. to 4 ft. DIA)	80	EA.	51	4,080	1.19	4,860
Transport of Boulders (assume $55/hr; 6 hr/trip)	230	20-ton	10	2,300	1.19	2,740
Boulder Placement (assume 1 hr/boulder)	147	EA.	51	7,487	1.19	8,919
Bridges and Culverts (LERRDS)						
Bridge Removal (Exist. Hillsdale Avenue)	50,000	L.S.	1	50,000	1.19	59,560
Assumed Cost To Replace Hillsdale Avenue Bridge	500,000	L.S.	1	500,000	1.19	595,600
Traffic Control (Hillsdale Bridge replacement)	100,000	L.S.	1	100,000	1.19	119,120
Utility Relocation/Modification (LERRDS)						
Sanitary Sewer Line Relocation (below invert - Sta. 889+2	100	L.F.	150	15,000	1.19	17,868
Outfalls (12in. - 54in.)	3,000	EA.	4	12,000	1.19	14,294
Outfalls (60in. - 78in.)	5,000	EA.	0	-	1.19	-
Miscellaneous						
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	45,360	24,948	1.19	29,718
Gates	800	EA.	2	1,600	1.19	1,906
Fencing	10	L.F.	2,850	28,500	1.19	33,949
SUBTOTAL						**$3,736,504**
Mobilization (10%)						373,650
Construction Contingencies (10%)						373,650
TOTAL CONSTRUCTION						**$4,483,805**
Geotechnical (5%)						224,190
Inspection (10%)						448,381
Bridges and Culverts Design Cost (LERRDS)						92,914
Utility Relocation/Modification Design Cost (LERRDS)						3,859
RIGHT-OF-WAY COSTS						2,886,000
MITIGATION COSTS						197,079
REACH 10C & 10D TOTAL COST						**$8,336,228**

District Funds Needed to Proceed with Construction	
LERRDS - lands, easements, right of way	165,000
LERRDS - relocation, disposal	1,209,664
LPP Incremental Real Estate	85,000
LPP Incremental Construction	966,038
TOTAL	2,425,702

NED/LPP ITEMIZATION				
NED	**LERRDS**			**3,114,424**
		Land, Easement, ROW (66% of Real Estate)	1,904,760	
		Relocation, Disposal	1,209,664	
	CONSTRUCTION			**3,274,526**
LPP Incremental				**1,947,278**

Reach 11 – From Capitol Expressway to Branham Lane

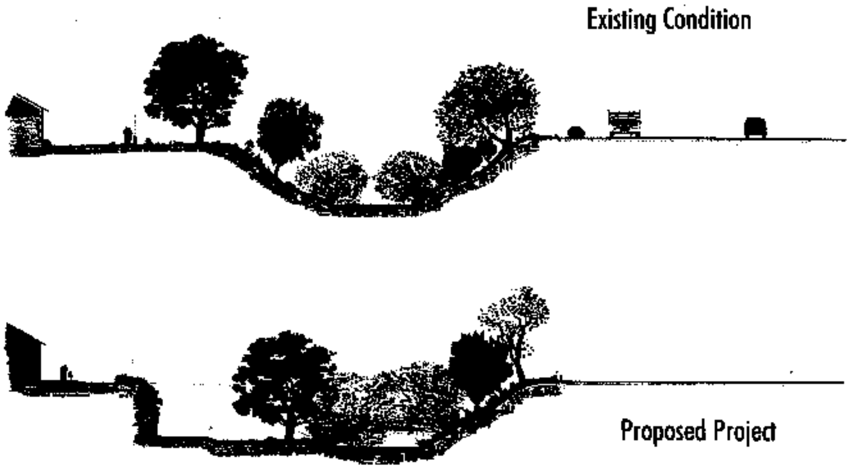
This reach is divided into three sub-reaches: (11A) Capitol Expressway to Bryan Avenue; (11B) Bryan Avenue to Ross Creek; and (11C) Ross Creek to Branham Lane.

In Reach 11A, the maintenance road from Reach 10C continues under Capitol Expressway and ramps up to the top of bank upstream of the bridge. The east bridge abutment will be excavated to provide additional flow capacity and accommodate the road. Under the bridge, the east bank will consist of a vertical concrete retaining wall above the maintenance road. The east and west banks will be protected with stepped gabions.

Upstream of Capitol Expressway to where Chard Drive meets Almaden Expressway, only the west bank would remain undisturbed. The existing trees would be preserved and barren areas would be revegetated.

A 700-foot long bypass channel would be constructed to the east of the natural channel from Station 915+00 to Station 922+00. The bypass would be 50 feet wide at the bottom and would have a rock-lined invert. The upstream side of the bypass would be constructed at an elevation such that flows less than approximately 1,500 cfs would continue in the natural channel. A maintenance road would ramp down from Steval Place to the bottom of the bypass and continue upstream. The upstream entrance of the bypass would be sloped at 15 percent to allow access to the bottom of channel.

Typical Section
Proposed Project between Capitol Expressway and Ross Creek



East and west bank widening would begin upstream of the bypass channel, about 1,500 feet upstream of Capitol Expressway. An 18-foot wide depressed maintenance road would continue on the east bank. The bank below the road would be earth at 2:1 slope and the upper bank would be lined with stepped gabions on a 1:1 slope up to the 1 percent water surface elevation. Above the 1 percent flow elevation, the upper east bank would be earth on a slope of 2:1 for revegetation. The distance from the top of the east bank to the right-of-way would be 30 feet. Planting areas would be provided in the stepped gabions.

The 18-foot maintenance road on the top of bank upstream of Capitol Expressway would end at Steval Place. The depressed maintenance road on the east bank upstream of the bypass channel would continue upstream to the SJWC property. Maintenance access would also be provided on the top of east bank and would be designed to avoid existing trees. Gates would limit access to these areas. Bare areas would be revegetated with riparian vegetation. Existing concrete rubble, acting as fish barrier, in the channel bottom would be removed for fish passage.

In Reach 11B, the channel would be widened to the west to create a depressed bench up to 40 feet wide. The depressed bench and a 20-foot wide corridor on the west bank would be revegetated. An 18-foot maintenance road and ramps would be provided to service the revegetation area and for access to the channel bottom. An abandoned SJWC concrete low-flow crossing that acts as a fish barrier would be removed. An existing SJWC well and associated piping on the west side of the river would be relocated.

A maintenance road would also be provided on the east top of bank. An easement would be required from the SJWC for the maintenance road. The maintenance road would be designed to avoid the existing vegetation, including clumps of sycamore trees.

In Reach 11C, the west bank would be widened and steepened to a 1:6 side slope and lined with cribwalls. A depressed bench would be created for a floodway and revegetation and would be designed to minimize impacts to existing trees. A ramp down to the depressed bench would be provided. The widening would require the removal of a parking area for one commercial building. The parking area would be relocated to the south of the building. The east bank would be undisturbed. The continuous maintenance road from downstream would be located on the east bank. A ramp would be provided for the underpass at Branham Lane.

All man-made or eye-sore materials would be removed only when there are no impacts associated with the removal and the bank is stable.

The Ross Creek confluence would be improved by adding a 20- by 10-foot RCB to the existing culvert and designed to direct the flow from Ross Creek downstream. A concrete apron would be constructed at the outlet of the culvert. A fish pool system would be constructed for fish migration upstream of Ross Creek. For more information, see Ross Creek Project on page 155.

District-funded LERRD items for this Reach include property acquisition and utility relocations/modifications. All other construction will be Corps' responsibility. However, the District will be fully responsible for funding the construction of the gabions and bypass invert rock lining, and partially responsible for funding the clearing and grubbing and 20 percent of the mitigation.

Reach 11 – Detail Cost Estimate

Reach 11: Capitol Expressway to Branham Lane
Cost Estimate Summary (12,400/11,400 cfs Flood Protection)
Widened Gabion/Cribwall Channel With Bench and Bypass

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	6	33,000	1.19	39,310
Clearing and Grubbing	5,500	Acre	6	33,000	1.19	39,310
Earthwork						
Structural excavation (fish barrier adjacent Bryan Avenue station)	50	C.Y.	600	30,000	1.19	35,736
Structural excavation (Ross Creek confluence)	50	C.Y.	230	11,500	1.19	13,699
Excavation	6	C.Y.	168,835	1,013,010	1.19	1,206,698
Excavation	6	C.Y.	11,165	66,990	1.19	79,799
Fill behind gabions	7	C.Y.	5,600	39,200	1.19	46,695
Channel Lining Modifications						
Stepped Gabion Lining	160	C.Y.	3,400	544,000	1.19	648,013
Proposed retaining wall under Capitol Expwy.	450	C.Y.	75	33,750	1.19	40,203
Shoring for retaining wall	11	S.F.	1,080	11,880	1.19	14,151
Access Ramps	7	S.F.	30,000	210,000	1.19	250,152
Cribwall Lining	20	S.F.	62,800	1,256,000	1.19	1,496,148
Cribwall Shoring	11	S.F.	62,800	690,800	1.19	822,881
Bypass Invert Rock Lining	30	C.Y.	5,000	150,000	1.19	178,680
Utility Relocation/Modification (LERRDS)						
Bryan Avenue Station improvements (SJWC)	355,000	L.S.	1	355,000	1.19	422,876
Outfalls (12in. - 54in.)	3,000	Each	8	24,000	1.19	28,589
Miscellaneous						
Remove Residential Sites	7,500	Each	2	15,000	1.19	17,868
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	135,000	74,250	1.19	88,447
Gates	800	Each	7	5,600	1.19	6,671
Fencing	10	L.F.	6,160	61,600	1.19	73,378
SUBTOTAL						**$5,549,303**
Mobilization (10%)						554,930
Construction Contingencies (10%)						554,930
TOTAL CONSTRUCTION						**$6,659,163**
Geotechnical (5%)						332,958
Inspection (10%)						665,916
Utility Relocation/Modification Design Cost (LERRDS)						54,176
RIGHT-OF-WAY COSTS						4,840,000
Already purchased (6 properties)	2,235,000					
To be purchased (3 full takes and 4 partial takes)	2,185,000					
Acquisition Administration	420,000					
MITIGATION COSTS						714,720
REACH 11 TOTAL COST						**$13,266,934**

District Funds Needed to Proceed with Construction	
LERRDS - lands, easements, right of way	1,953,750
LERRDS - relocation, disposal	677,197
LPP Incremental Real Estate	651,250
LPP Incremental Construction	1,512,589
TOTAL	4,794,786

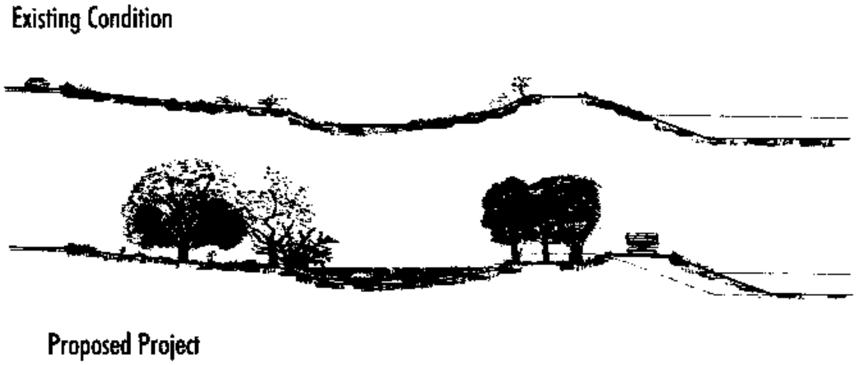
NED/LPP ITEMIZATION				
NED	**LERRDS**			4,307,197
		Lands, Easements, ROW	3,630,000	
		Relocation, Disposal	677,197	
	CONSTRUCTION			6,237,147
LPP Incremental				2,722,589

Reach 12 – From Branham Lane to Blossom Hill Road

From Branham Lane to the existing percolation ponds, the channel is adequate to contain the 1 percent flow. For mitigation to the impacts downstream, approximately 9 acres of land on the west bank would be acquired for revegetation. In order to create riparian, wetland, and open water habitat, the adjacent land would be excavated 10 to 15 feet deep. The additional 5.6 acres of riparian mitigation pond created would be functioning as a recharge pond. Maintenance roads would be located on the top of both the east and west banks. A ramp is proposed to provide access under the Branham Lane Bridge.

The City plans to construct future Chynoweth Avenue which will impact approximately 1.4 acres of the existing percolation pond. The City would place fill over the existing percolation ponds to accommodate a longer approach to the new bridge and minimize the bridge span length across the river. The mitigation for lost recharge due to the City's impacts would be included in the District's riparian mitigation pond in this reach. The City would enter an agreement with the District to purchase land and perform work for which the City would later reimburse the District.

From the downstream end of the percolation ponds to Blossom Hill Road, the channel would be widened primarily to the east, and existing levees on both banks would be reconstructed. An 18-foot wide floodway would be created with the proposed upper earth bank at a 2:1 slope on the east bank. Maintenance roads would be located on both tops of banks and on the bench.



In this reach, there are two seasonal gravel dams constructed for in-stream percolation. One is located at 1,000 feet upstream of Branham Lane and the other at 1,800 feet downstream of Blossom Hill Road. The dams operate at 164 feet and 171 feet NGVD water surface elevations, respectively. The two gravel dams would be replaced with permanent inflatable dams that would remain inflated year round except during high flood flows. Fish step pool systems would be constructed so that the dam operations would not affect fish migration.

Reach 12 is part of the Corps' NED project. However, all construction cost for this reach will be funded by the District.

Reach 12 – Detail Cost Estimate

Reach 12: D/S Branham Lane to Blossom Hill Road
Cost Estimate Summary (12,400/11,400 cfs Flood Protection)
All District Cost - 100% LPP

Item	Unit Cost	Unit	Qty	Jan. 1996 Value	ENR CCI 10/02 Factor	Oct. 2002 Value
Site Preparation						
Clearing and Grubbing	5,500	Acre	12.4	68,200	1.19	81,240
Coffer dams installation (fill for 2)	7	C.Y.	300	2,100	1.19	2,502
Coffer dams removal (excavation for 2)	6	C.Y.	300	1,800	1.19	2,144
Earthwork						
Excavation	6	C.Y.	369,000	2,214,000	1.19	2,637,318
Fill	7	C.Y.	119,050	833,350	1.19	992,687
Channel Lining Modifications						
Access Ramps	7	S.F.	18,000	126,000	1.19	150,091
Proposed retaining wall under Branham Lane	450	C.Y.	80	36,000	1.19	42,883
Shoring for retaining wall	11	S.F.	1,375	15,125	1.19	18,017
Miscellaneous						
New Water Supply Pipeline	200	FT.	1,400	280,000	1.19	333,536
Armoring Aggregate. (6in. Maint. Rd.)	1	S.F.	178,200	98,010	1.19	116,750
SUBTOTAL						**$4,377,167**
Mobilization (10%)						437,717
Construction Contingencies (10%)						437,717
TOTAL CONSTRUCTION						**$5,252,601**
Geotechnical (5%)						262,630
Inspection (10%)						525,260
RIGHT-OF-WAY COSTS						12,118,000
MITIGATION COSTS						782,857
REACH 12 TOTAL COSTS						**$18,941,348**

District funds needed to proceed with design & construction	
LERRDS - lands, easements, right of way	10,995,000
Construction	6,823,348
TOTAL	17,818,348

NED/LPP ITEMIZATION (same for this reach)			
NED	LERRDS		12,118,000
	Lands Easements, ROW	12,118,000	
	Relocations, Disposal	0	
	CONSTRUCTION		6,823,348

Canoas Creek – From Northbound Almaden Expressway to Nightingale Drive

In this reach, floodwalls would be constructed on both banks. The floodwalls would be 3 to 4 feet high and located 2 feet inside the District rights of way. The 18-foot maintenance road would remain inside the floodwalls and ramps would be provided for access onto Almaden Expressway and Nightingale Drive.

A 20- by 12-foot concrete cell would be added adjacent to the existing double 10- by 12-foot RCB culverts at Almaden Expressway. This addition would be on the north side of the existing box culverts and the existing outlet transition would be improved to accommodate the new cell.

Similarly, a 9- by 9½-foot concrete cell would be added to the existing double 9- by 9½-foot existing RCB culverts at Nightingale Drive. This addition would be on the south side of the existing box culverts and both the inlet and outlet transitions would be modified to accommodate the new cell.

District LERRD items for this Reach include new culvert construction for Almaden Expressway and Nightingale Drive. All other construction will be Corps' responsibility

Canoas Creek – Detail Cost Estimate

CANOAS CREEK - U/S Almaden Expressway to U/S Nightingale Drive
Cost Estimate Summary (2,400 cfs Flood Protection)
Floodwalls (Widened Cribwall or Widened Gabion in Guadalupe River)

Item	Unit Cost	Unit	Qty	1/96 Value	ENR CCI 10/02 Factor	10/02 Value
Site Preparation						
Coffer dams installation (fill for 4)	7	C.Y.	600	4,200	1.19	5,003
Coffer dams removal (excavation for 4)	6	C.Y.	600	3,600	1.19	4,288
Earthwork						
Excavation	6	C.Y.	6,000	36,000	1.19	42,883
Fill	7	C.Y.	340	2,380	1.19	2,835
Channel Lining Modifications						
Floodwalls (3.5 feet min.)	450	C.Y.	1,200	540,000	1.19	643,248
Headwalls	450	C.Y.	15	6,750	1.19	8,041
Wingwalls	450	C.Y.	100	45,000	1.19	53,604
Culvert Construction (LERRDS)						
Culvert (Almaden Expwy. and Nightingale Dr.)	450	C.Y.	730	328,500	1.19	391,309
Shoring	11	S.F.	9,160	100,760	1.19	120,025
Traffic Control	50,000	L.S.	2	100,000	1.19	119,120
Roadway Replacement (LERRDS)						
Remove A/C Pavement	2	S.F.	3,250	6,500	1.19	7,743
Remove Curb & Gutter	2	L.F.	80	160	1.19	191
Remove Sidewalk	2	S.F.	360	720	1.19	858
A/C Pavement	5	S.F.	3,520	17,600	1.19	20,965
Curb & Gutter	16	L.F.	80	1,280	1.19	1,525
Sidewalk	6	S.F.	360	2,160	1.19	2,573
SUBTOTAL						**$1,424,211**
Mobilization (10%)						142,421
Construction Contingencies (10%)						142,421
TOTAL CONSTRUCTION						**$1,709,053**
Geotechnical (5%)						85,453
Inspection (10%)						170,905
Bridges and Culverts Design Cost (LERRDS)						75,655
Roadway Replacement Design Cost (LERRDS)						4,062
RIGHT-OF-WAY COSTS						0
MITIGATION COSTS						0
CANOAS CREEK TOTAL COSTS						**$2,045,128**

District Funds Needed to Proceed with Construction

LERRDS - lands, easements, right of way	0
LERRDS - relocation, disposal	996,463
LPP Incremental	0
TOTAL	996,463

NED/LPP ITEMIZATION

NED	**LERRDS**			**996,463**
		Land, Easement, ROW	0	
		Relocation, Disposal	996,463	
	CONSTRUCTION			**1,048,665**

Ross Creek – From Almaden Expressway to Jarvis Road

In this reach, the channel is inadequate to convey 1 percent design flow. The channel bottom would be widened to 30 feet with 1:1 side slopes. Both banks would be lined with ACM. An 18-foot maintenance road would be established on the south top of bank. The maintenance road would be depressed 3 feet below grade for security to adjacent properties. Intermittent rock placement and groins would be installed to create a low-flow channel.

A second 20- by 10-foot RCB culvert would be added on the north side of the existing culvert under Almaden Expressway to increase the capacity to convey the 1 percent design flow. The existing sewer line in Almaden Expressway would be relocated in coordination with the City. Similarly, at Jarvis Avenue, a second 13- by 9.5-foot box culvert would be constructed.

A fish step pool system would be constructed at the confluence of Ross Creek for fish migration into Ross Creek. Low flow channels and baffles would be included in the design of the new RCB culverts for fish passage.

District LERRD items for this Reach include utility relocations/modifications and new culvert construction for Almaden Expressway and Jarvis Avenue. All other construction will be Corps' responsibility. However, the District will be fully responsible for funding the construction of the vortex rock weirs.

Ross Creek – Detail Cost Estimate

ROSS CREEK - D/S Almaden Expressway to U/S Jarvis Avenue
Cost Estimate Summary (2,400 cfs Flood Protection)
Widened Channel With Armorflex Slope Lining And Rock Vortex Weir Bottom Lining

Item	Unit Cost	Unit	Qty	1/96 Value	ENR CCI 10/02 Factor	10/02 Value
Earthwork						
Excavation	6	C.Y.	44820	268,920	1.19	320,338
Fill	7	C.Y.	2250	15,750	1.19	18,761
Channel Lining Modifications						
Armorflex lining	7	S.F.	155000	1,085,000	1.19	1,292,452
Wingwalls	450	C.Y.	335	150,750	1.19	179,573
Floodwalls (average 2 feet high for 2,800 feet, both b	450	C.Y.	2400	1,080,000	1.19	1,286,496
Culvert Construction (LERRDS)						
Culvert Concrete Amount	450	C.Y.	1450	652,500	1.19	777,258
Shoring	11	S.F.	8500	93,500	1.19	111,377
Washington steel baffles for low-flow channel	150	Each	55	8,250	1.19	9,827
21" VCP Modification	30,000	L.S.	1	30,000	1.19	35,736
Traffic Control	50,000	L.S.	3	150,000	1.19	178,680
Utility Relocation/Modification (N. bank only) (LERRDS)						
Outfalls (12in. - 54in.)	3,000	Each	2	6,000	1.19	7,147
Roadway Replacement (LERRDS)						
Remove A/C Pavement	2	S.F.	3700	7,400	1.19	8,815
Remove Curb & Gutter	2	L.F.	160	320	1.19	381
Remove Sidewalk	2	S.F.	200	400	1.19	476
A/C Pavement	5	S.F.	3700	18,500	1.19	22,037
Curb & Gutter	16	L.F.	160	2,560	1.19	3,049
Sidewalk	6	S.F.	200	1,200	1.19	1,429
SUBTOTAL						**$2,967,340**
Mobilization (10%)						296,734
Construction Contingencies (10%)						296,734
TOTAL CONSTRUCTION COSTS						**$3,560,808**
Geotechnical (5%)						178,040
Inspection (10%)						356,081
Bridges and Culverts Design Cost (LERRDS)						133,545
Utility Relocation/Modification Design Cost (LERRDS)						858
Roadway Replacement Design Cost (LERRDS)						4,343
RIGHT-OF-WAY COSTS						-
MITIGATION COSTS						-
Vortex Rock Weirs (26 sites) - LPP Only						
Boulders (3 ft. to 4 ft. DIA)	***80***	***EA.***	***442***	***$35,360***	***1.19***	***42,121***
Transport of Boulders	***230***	***20-ton***	***85***	***$19,550***	***1.19***	***23,288***
Boulder placement using backhoe excavator	***146.81***	***EA.***	***442***	***$64,890***	***1.19***	***77,297***
Mobilization (10%)						***14,271***
Construction Contingencies (10%)						***14,271***
TOTAL CONSTRUCTION COSTS						***171,247***
Geotechnical (5%)						***8,562***
Inspection (10%)						***17,125***
ROSS CREEK VORTEX ROCK WEIR COSTS						***196,934***
ROSS CREEK TOTAL COST						**4,430,609**

District Funds Needed to Proceed with Construction

LERRDS - lands, easements, right of way	0
LERRDS - relocation, disposal	1,734,322
LPP Incremental	196,934
TOTAL	1,931,256

NED/LPP ITEMIZATION

NED	**LERRDS**		1,734,322
	Land, Easement, ROW	-	
	Relocation, Disposal	1,734,322	
	CONSTRUCTION		2,499,352
LPP Incremental			196,934

APPENDIX E

Corps of Engineers Letter dated 3/8/02

Appendix E

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

March 8, 2002

Real Estate Division

Santa Clara Valley Water District
ATTN: Mr. Stan Williams, CEO
5750 Almaden Expressway
San Jose, California 95118-3686

Dear Mr. Williams:

The purpose of this letter is to discuss the proposed construction of a new bypass channel in the Upper Guadalupe Project and to document that the construction of two new brides, one located at Willow Street and one located at Alma Avenue, are considered to be "construction costs" and not "relocation costs."

The decision that these new bridges are construction costs is based on the fact that the bypass channel is a project feature that wil require these two streets to have bridges constructed to allow for the flow of water from the bypass channel. This is in opposition to the "relocation" scenario where a project feature impacts an existing utility/facility (bridge or street) necessitating it to be either raised, lowered, or otherwise impacted.

Attached to this letter is a sketch of the conceptual bypass channel plan with Alma and Willow Street locations of existing bridges, and locations of the proposed new bridges depicted.

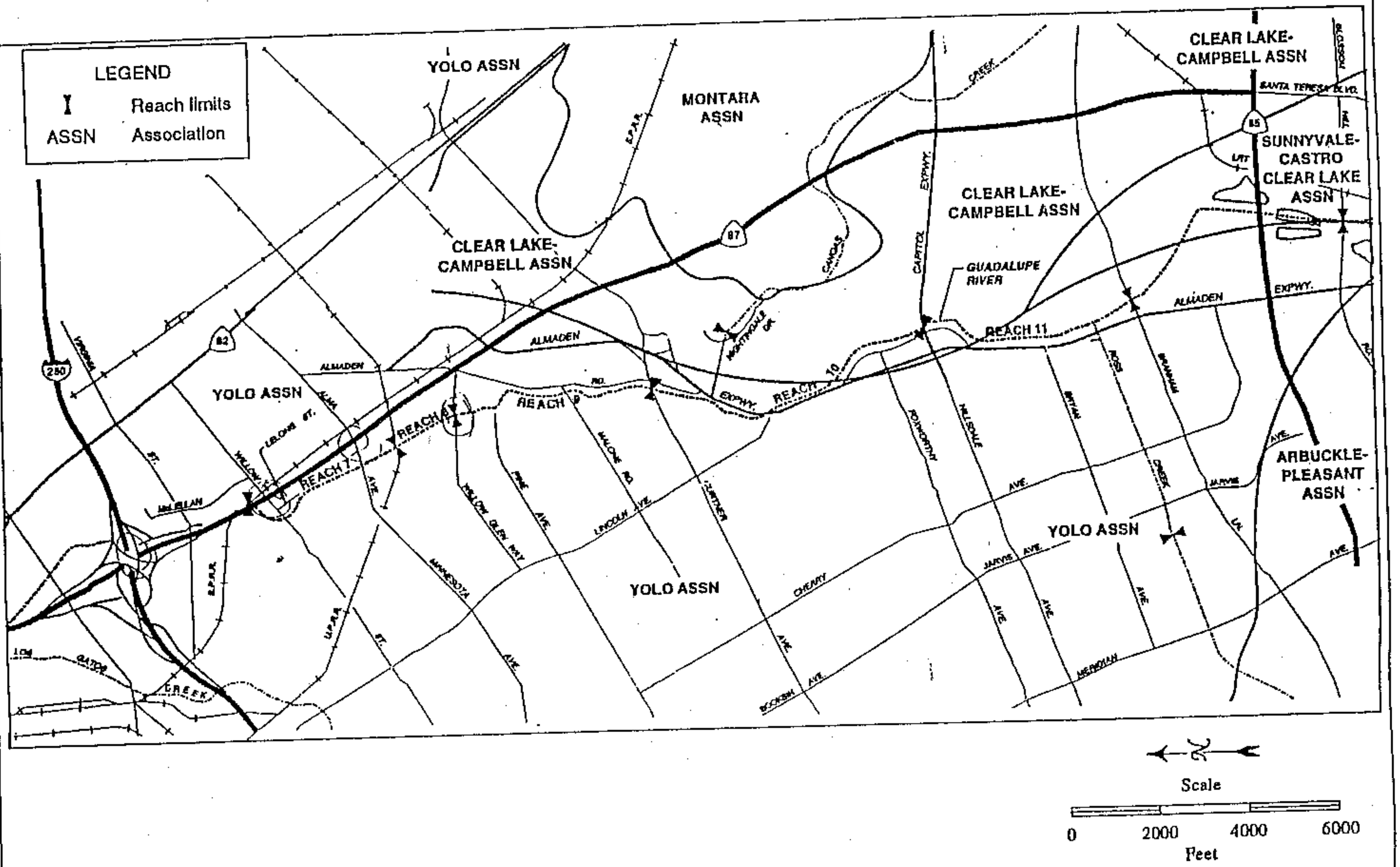
If you have any questions, please contact Susan Miller at (415) 977-8708.

Sincerely,

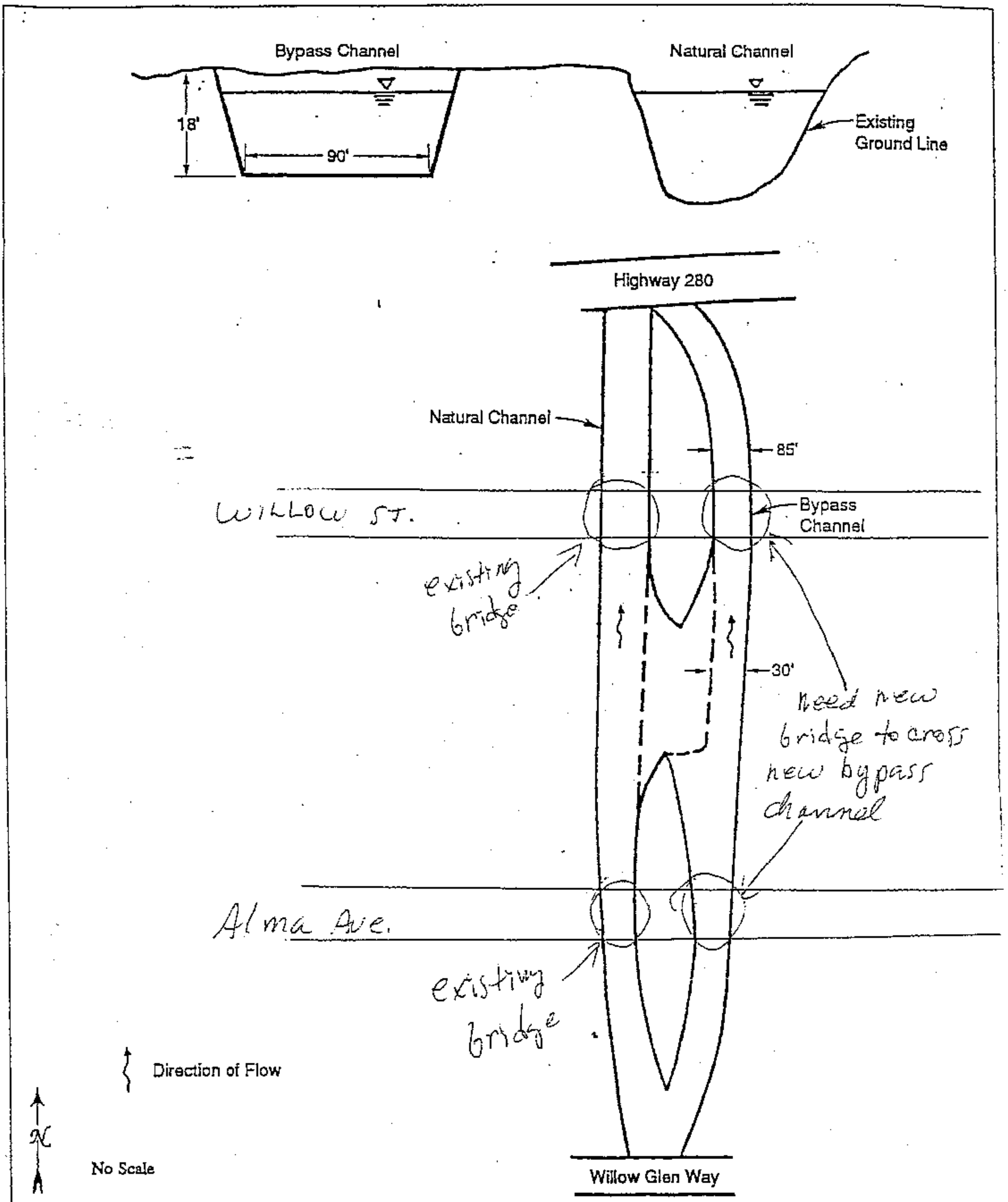
Marvin D. Fisher
Chief, Real Estate Division

Enclosures

Copy Furnished with enclosures:
✓Ngnoc Nguyen, 5750 Almaden Expressway, San Jose, CA 95118-3686
Dennis Cheong, 5750 Almaden Expressway, San Jose, CA 95118-3686
Randy Talley, 5750 Almaden Expressway, San Jose, CA 95118-3686
Dave Doak, USACOE, San Francisco District, PPMD, 333 Market Street, San Francisco, CA 94105



Source: USDA Soil Conservation Service 1968
Modified from: Engineering-Science, Inc. 1994



Source: BioSystems Analysis 1995

Figure 2-4. Conceptual Bypass Channel Plan Design

APPENDIX F

DWR Letter dated 11/9/98

Appendix F

TATE OF CALIFORNIA—THE RESOURCES AGENCY
GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT
3251 S STREET
SACRAMENTO
95816-7017

11/14 EET
SNW
SMF
RRS
CGW

NOV - 9 1988

Mr. Randall R. Talley
Division Engineer
Predesign Division
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

0510 '88 NOV 14 P2:25

Dear Mr. Talley:

Guadalupe River Flood Control Project Eligibility

Your letter of October 17, 1988 transmitted Ordinance 88-2 by the Water District establishing floodplain management regulations for the Guadalupe River, along with a map designating the 100-year floodplain. You also transmitted a resolution designating Mr. Robert R. Smith as the District's representative to file claims.

You asked if the District is now eligible for State financial assistance or if there are further requirements.

We have reviewed the above documents and find them acceptable for the partial requirements for State assistance.

Recent legislation (SB 502) revised the cost-sharing formulas used by the State. The passage of HR 6, the Water Resources Development Act of 1986 (PL 99-662), introduced the concept of a cash contribution toward construction. Beginning January 1, 1989 (the effective date of SB 502), the Guadalupe River Flood Control Project will be eligible for 70 percent reimbursement for (1) this local cash contribution toward construction, (2) relocation costs, and (3) rights of way acquisition costs.

The State will not disburse any funds until Congress appropriates monies for construction of the project. Your District will be required to provide the Department with a land rights work map prior to reimbursement by the State for any claims for rights of way acquisition costs.

If you have any questions, please call Mr. Wilmer Graves at (916) 445-9854.

Sincerely,

James U. McDaniel, Chief
Central District

Santa Clara Valley Water District
5750 ALMADEN EXPRESSWAY
SAN JOSE, CALIFORNIA 95118
TELEPHONE (408) 265-2600
AN AFFIRMATIVE ACTION EMPLOYER

October 17, 1988

James U. McDaniel, Chief
Department of Water Resources
Central District
3251 S Street
Sacramento, CA 95816-7017

Dear Mr. McDaniel:

I am enclosing a copy of a resolution and an ordinance as partial fulfillment of conditions of eligibility for state assistance on the U.S. Army Corps of Engineers' Guadalupe River flood control project.

Resolution 88-73 holds and saves the State of California free from damages due to the construction, operation and maintenance of the project.

Ordinance 88-2 establishes the floodways necessary to satisfy the requirements of the Cobey-Alquist Floodplain Management Act. These documents have been recorded with the county recorder.

We understand from the Sacramento office of the Corps of Engineers that the Secretary of the Army forwarded the "Final Guadalupe River Interim Feasibility Report and Environmental Impact Statement" to the Office of Management and Budget on September 12, 1988.

Please let us know if we are now eligible for State financial assistance or if there are additional requirements.

Sincerely,

ORIGINAL SIGNED BY

Randall R. Talley, P.E.
Division Engineer
Predesign Division

Attachment

cc: R. Smith
V. Lico
S. Wolfe
✓R. Talley
J. Fiedler

RT:la

AGENDA MEMORANDUM

AGENDA DATE 9/13/88 ITEM NO. 5 UNIT Flood Control

ZONE C PROJECT NO. 3015 NAME Guadalupe River - Corps of Engineers

SUBJECT: Guadalupe River Corps of Engineers Project - Department of Water Resources (DWR) Requirements for Subventions Program

EXPLANATION:

A Resolution and an Ordinance are required by DWR as prerequisites to qualifying for reimbursements from the State Subventions Program. The Ordinance will guarantee protection of the right of way needed for the project and fulfills requirements of the Cobey-Alquist Act. The Resolution will give necessary assurances to the State of California and will designate the Flood Control Manager as the person to file reimbursement claims consistent with District policy on other federal flood control projects.

RECOMMENDATION: Adopt the Resolution and the Ordinance.

APPROVED

SEP 13 1988

RESOLUTION NO. 88-73

GIVING ASSURANCES TO THE STATE OF CALIFORNIA AND DESIGNATING PERSON TO FILE CLAIMS

WHEREAS, the Secretary of Army intends to construct a flood control project on Guadalupe River, at the City of San Jose, County of Santa Clara; and

WHEREAS, under the State Water Resources Law of 1945 the State of California intends to pay certain costs of lands, easements and rights of way necessary for said project; and

WHEREAS, the Santa Clara Valley Water District has given all assurances required by federal or state law; now, therefore,

BE IT RESOLVED, by the Board of Directors of the Santa Clara Valley Water District that the District hereby gives assurances to the State of California that it will operate and maintain said project after completion, in such manner as will accomplish the purposes for which the project was authorized and constructed and as may be required by the Secretary of Army and the Department of Water Resources; that it will hold and save the State of California free from damages to claims due to the construction, installation, or operation of the project; and that it will give all assurances required by federal law as to said project; and that it will guarantee public access to project land and water areas when the State participates in the costs of recreation and fish and wildlife enhancement features, and be it

FURTHER RESOLVED that the Santa Clara Valley Water District hereby appoints Robert R. Smith, Flood Control Manager, to file claims with the State of California for reimbursement of expenditures made by the District for lands, easements and rights of way necessary for said project.

PASSED AND ADOPTED by the Board of Directors of the Santa Clara Valley Water District, State of California, this 13th day of September 1988, by the following vote:

AYES: Directors J. DONOHUE P. T. FERRARO R. W. GROSS ~~J. JUDGE~~
~~J. J. LENIHAN~~ J. PANDIT S. SANCHEZ

NOES: Directors None

ABSENT: Directors J.Judge, J.J.Lenihan

SANTA CLARA VALLEY WATER DISTRICT

By: /S/ JOE PANDIT
Chairman of the Board of Directors

ATTEST: ~~SUSAN A. PINO~~

/S/ DORIS MAROVICH
Clerk/of the Board of Directors
ProTem

46RL6494

ORDINANCE NO. 88-2

AN ORDINANCE OF
SANTA CLARA VALLEY WATER DISTRICT
ESTABLISHING FLOODWAYS FOR GUADALUPE RIVER
CITY OF SAN JOSE, STATE OF CALIFORNIA

The Board of Directors of Santa Clara Valley Water District do hereby ordain as follows:

SECTION 1

1.1 The Board finds and declares that the area of the District hereinafter shown and described is subject to recurrent flooding and overflow detrimental to the health, safety, welfare and property of the people of the District; that the public interest necessitates sound development of land use as land is a limited, valuable and irreplaceable resource, and the floodplains of this District are a land resource to be developed in a manner which, in conjunction with economically justified structural measures for flood control, will result in prevention of loss of life and of economic loss caused by excessive flooding; that the primary responsibility for planning, adoption and enforcement of land use regulations to accomplish floodplain management rests with the cognizant local jurisdictions, to-wit the City of San Jose, and this District.

SECTION 2

2.1 Pursuant to the Cobey-Alquist Floodplain Management Act (beginning with Section 8400 of the Water Code of the State of California) and further pursuant to Subsection 15 of Section 5 of the Santa Clara Valley Water District Act this Board does hereby establish as a designated floodway all those several parts or portions of the channel of streams and of the adjoining floodplain shown upon the attached maps marked Exhibit "A" and by this reference made a part hereof.

2.2 Construction of structures in the said designated floodway which may endanger life or significantly restrict the carrying capacity of the designated floodway is prohibited; provided, that for the purpose of this section the work "structures" does not include public utility, electric, gas, or communication lines which may be located within the designated floodway where any permit or permits required by law or ordinance to so locate such lines have been granted.

SECTION 3

3.1 If any portion of this Ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the Ordinance and the application of such provision to other persons or circumstances shall not be affected thereby.

Passed and adopted by the Board of Directors of Santa Clara Valley Water District, this 13th day of September, 1988.

AYES: Directors J. DONOHUE P. T. FERRARO R. W. GROSS ~~J. JUDGE~~ ~~J. J. LENIHAN~~ J. PANDIT S. SANCHEZ

NOES: Directors None

ABSENT: Directors J.Judge, J.J.Lenihan

ATTEST: ~~SUSAN A. PINO~~

SANTA CLARA VALLEY WATER DISTRICT

/S/ DORIS MAROVICH
Clerk of the Board
ProTem

By: /S/ JOE PANDIT
Chairman of the Board of Directors

APPENDIX G

Construction Cost Index History

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Construction Cost Index History

Construction Cost Index History (1908-2003)

HOW ENR BUILDS THE INDEX: 200 hours of common labor at the 20-city average of common labor rates, plus 25 cwt of standard structural steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of portland cement at the 20-city price, plus 1,088 board-ft of 2 x 4 lumber at the 20-city price.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVG
1980	3132	3134	3159	3143	3139	3198	3260	3304	3319	3327	3355	3376	3237
1981	3372	3373	3384	3450	3471	3496	3548	3616	3657	3660	3697	3695	3535
1982	3704	3728	3721	3731	3734	3815	3899	3899	3902	3901	3917	3950	3825
1983	3960	4001	4006	4001	4003	4073	4108	4132	4142	4127	4133	4110	4066
1984	4109	4113	4118	4132	4142	4161	4166	4169	4176	4161	4158	4144	4146
1985	4145	4153	4151	4150	4171	4201	4220	4230	4229	4228	4231	4228	4195
1986	4218	4230	4231	4242	4275	4303	4332	4334	4335	4344	4342	4351	4295
1987	4354	4352	4359	4363	4369	4387	4404	4443	4456	4459	4453	4478	4406
1988	4470	4473	4484	4489	4493	4525	4532	4542	4535	4555	4567	4568	4519
1989	4580	4573	4574	4577	4578	4599	4608	4618	4658	4658	4668	4685	4615
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVG
1990	4680	4685	4691	4693	4707	4732	4734	4752	4774	4771	4787	4777	4732
1991	4777	4773	4772	4766	4801	4818	4854	4892	4891	4892	4896	4889	4835
1992	4888	4884	4927	4946	4965	4973	4992	5032	5042	5052	5058	5059	4985
1993	5071	5070	5106	5167	5262	5260	5252	5230	5255	5264	5278	5310	5210
1994	5336	5371	5381	5405	5405	5408	5409	5424	5437	5437	5439	5439	5408
1995	5443	5444	5435	5432	5433	5432	5484	5506	5491	5511	5519	5524	5471
1996	5523	5532	5537	5550	5572	5597	5617	5652	5683	5719	5740	5744	5620
1997	5765	5769	5759	5799	5837	5860	5863	5854	5851	5848	5838	5858	5825
1998	5852	5874	5875	5883	5881	5895	5921	5929	5963	5986	5995	5991	5920
1999	6000	5992	5986	6008	6006	6039	6076	6091	6128	6134	6127	6127	6060
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVG
2000	6130	6160	6202	6201	6233	6238	6225	6233	6224	6259	6266	6283	6221

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2001	6281	6273	6280	6286	6288	6319	6404	6389	6391	6397	6410	6390	6342
2002	6462	6462	6502	6480	6512	6532	6605	6592	6589	6579	6578	6563	6538
2003	6581	6640	6627										

Base: 1913=100

ANNUAL AVERAGE

1908	97	1931	181	1954	628	1977	2576
1909	91	1932	157	1955	660	1978	2776
1910	96	1933	170	1956	692	1979	3003
1911	93	1934	198	1957	724		
1912	91	1935	196	1958	759		
1913	100	1936	206	1959	797		
1914	89	1937	235	1960	824		
1915	93	1938	236	1961	847		
1916	130	1939	236	1962	872		
1917	181	1940	242	1963	901		
1918	189	1941	258	1964	936		
1919	198	1942	276	1965	971		
1920	251	1943	290	1966	1019		
1921	202	1944	299	1967	1074		
1922	174	1945	308	1968	1155		
1923	214	1946	346	1969	1269		
1924	215	1947	413	1970	1381		
1925	207	1948	461	1971	1581		
1926	208	1949	477	1972	1753		
1927	206	1950	510	1973	1895		
1928	207	1951	543	1974	2020		
1929	207	1952	569	1975	2212		
1930	203	1953	600	1976	2401		

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APPENDIX H

Clean, Safe Creeks & Natural Flood Protection Excerpts

Upper Guadalupe River: San Jose

- Extends from Highway 880 upstream to Blossom Hill Road
- Protects 7,500 homes and businesses and 2,300 acres
- Prevents flooding of Highway 87
- Prevents potential 100-year flood damage of over $280 million
- Adds approximately 20 percent to the riparian forest
- Provides an additional 12 miles of fish habitat, and adds fish ladders to enhance migration
- Reduces bank erosion and improves water quality
- Allows for continuous creekside trail access

The new plan: outcome one

Upper Guadalupe River flood protection project

This project provides protection for some of the oldest residential areas in San Jose, as well as commercial areas in Willow Glen and vital transportation networks.

Local cost: $70.8 million
Federal contribution: $42.9 million
Total project cost: $113.7 million

Flood protection benefits: Guadalupe watershed

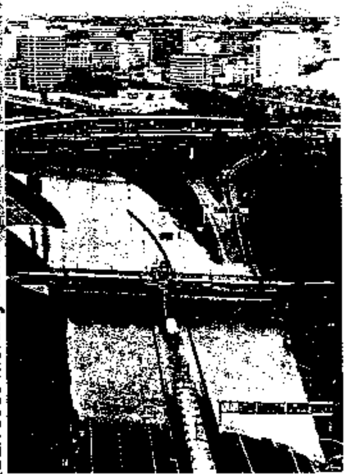
- The Project provides protection on the Upper Guadalupe River, upstream of the Willow Street bridge to Blossom Hill Road.

- The Project protects 2,300 acres, including 6,900 homes and businesses, from a 1 percent flood, saving potential damages in excess of $280 million (1998 value).

- The Project prevents flooding of Highway 87 and the adjacent light-rail line—a vital commuter route.

- Proposed project modifications include bypass channels, channel widening, gabion lining, bridge construction, and construction of floodwalls and levees.

- Total estimated cost for the project is $113.7 million, with estimated federal participation covering $42.9 million; this reduces the local cost to $70.8 million.



San Jose Mercury News

Highway 87 and the parallel light-rail line—both major commuter thoroughfares—were closed by floods in 1995 and 1998.

Flooding impact

- Within the last 17 years, damaging flood events occurred in 1982, 1983, 1986, 1995 and 1998.

- Severe flooding in 1995 damaged more than 150 homes in residential districts of Gardner, Willow Glen and south San Jose.

- Highway 87 and the parallel light-rail line—both major commuter thoroughfares—were closed by floods in 1995 and 1998.

Additional benefits: ecosystem, water quality, aesthetics, recreation

- The environmentally-sensitive 100-year bypass channel will result in long-term beneficial impacts to stream ecology, hydrology, wildlife and fisheries.

- All riparian forest vegetation removed by construction will be replaced on a two to one basis, and all mitigation sites will be planted entirely with native species. This will add approximately 20 percent more area to the riparian forest.

- Planned mitigation measures would provide an additional 12 miles of fish habitat within and upstream of the project reach.
- Vortex rock weirs will provide fish with protective covering and deepen feeding areas in the riffle reach of the channel.
- Some elements of the project plan have already been constructed, because they solved critical problems. For example, the water district has already constructed a step-pool fish ladder to replace the drop structure upstream of Blossom Hill Road; the first salmon successfully passed through the ladder in November, 1999.
- The project reduces bank erosion, thereby improving water quality.
- The project allows for continuous creekside trail access.

Status

- The feasibility report and EIR/EIS are expected to be adopted by the end of 2000.

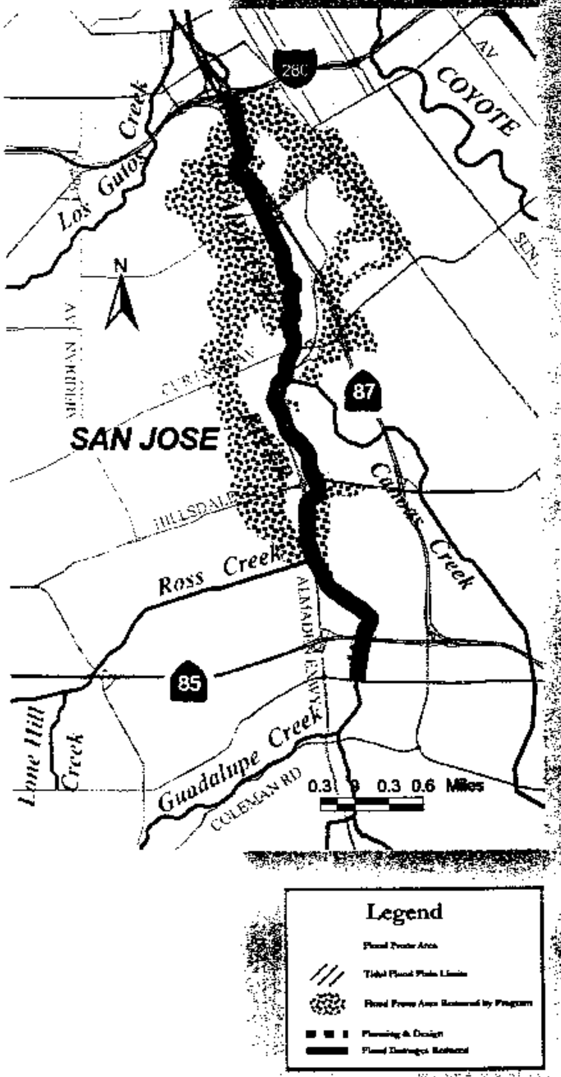
Outcomes with local funding only

- If only local funding is available, the reduced project would extend from Highway 280 to Curtner Avenue. This would reduce flooding frequency, but parcels in the floodplain would still be vulnerable to flooding from upstream sources.

The water district has already constructed 2 step-pool fish ladders downstream of Blossom Hill Road to encourage fish migration. This replaced the preexisting drop structures which were impassable to fish.

CD 4880-51

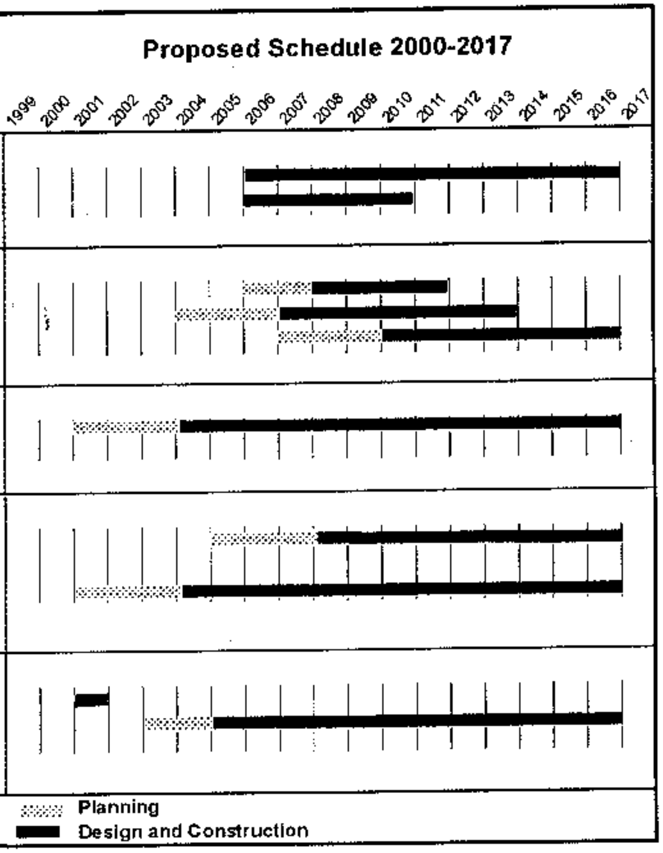
The project protects 2,300 acres in San Jose, including 7,500 homes and businesses and vital commuter networks such as Highway 87 and the adjacent light-rail commuter line.



Capital Program Funding Schedule

Clean, Safe Creeks and Natural Flood Protection Plan

Proposed Capital Program		Project Schedule	1999 Cost (In Millions)	
LOWER PENINSULA WATERSHEDS				
Permanente Creek	*(SF Bay to El Camino)*	*2006-16*	*$27.4*	
San Francisquito Creek	*(Design SF Bay to Searsville Dam)*	*2006-10*	*$8.0*	
		Subtotal	**$35.4**	
WEST VALLEY WATERSHEDS				
Sunnyvale West Channel	*(Guadalupe Slough to Hwy 101)*	*2006-10*	*$5.1*	
Calabazas Creek	*(Miller Avenue to Wardell Road)*	*2004-12*	*$35.1*	
Sunnyvale East Channel	*(Guadalupe Slough to I-280)*	*2007-16*	*$24.1*	
		Subtotal	**$64.3**	
GUADALUPE WATERSHED				
Upper Guadalupe River	*(I-280 to Blossom Hill Rd.)*	*2001-16*	*$113.7*	*(Local $70.8M)* *(Corps $42.9M)*
		Subtotal	**$113.7**	
COYOTE WATERSHED				
Berryessa Creek	*(Calaveras Rd to Old Piedmont Rd)*	*2005-16*	*$38.0*	*(Local $19M)* *(Corps $19M)*
Coyote Creek	*(Design and partial Construction - Montague to Hwy 280)*	*2001-16*	*$32.0*	
		Subtotal	**$70.0**	
UVAS/LLAGAS WATERSHEDS				
Upper Llagas Creek	*(West Little Llagas - Reach 7a)*	*2001-02*	*$3.8*	
	(Buena Vista to Wright Ave.)	*2003-16*	*$41.2*	*(Local $12.7M)* *(State/Corps $32.3M)*
		Subtotal	**$45.0**	
		TOTAL	**$328.4**	



CIP plan.cdr

Program Summary 3a New.xls (Phase II Report) 07/23/00

APPENDIX I

Task Numbers for Capital Projects

TASK NUMBERS THAT MUST BE USED BY ALL PROJECTS MANAGED BY CPSD

	Rollup No.	TASK No.	*Note: Do NOT charge to rollup numbers.*
Planning Phase	1100	1109	**PROJECT MANGMT-PLANNING PHASE**
	1110	1111	**Project Plan**-project plan, work plan, CIP, budget preparation, state subventions & federal cost sharing agreement negotiations
		1112	Project Plan Subtask - Planning
	1120	1121	**Project Administration**- Planning - progress and owner meetings, scheduling meetings, project filing, agenda coordination
		1122	Agenda Coordination - Planning
	1130	1131	**Project Control** - Planning - status reports, review and code invoices, other financial analysis
		1132	Project Control Subtask - Planning
	1150	1151	**Change Management** - **Planning** - prepare budget adjustment and change management documents
		1152	Change Management Subtask - Planning
	1200		**PLANNING STUDY**
		1208	**QA/QC for Planning** - QA/QC of Planning Deliverables
		1209	**Planning Study**
	1210		PlanningData Collection and Analysis
		1211	**Engineering Data Collection and Analysis** - mapping; survey; Haz Mat; hydrologic, geotechnical and other studies
		1212	**Envioronmental Data Collection Analyis** - Habitat mapping and survey, wetlands delineation, fishery survey
		1213	Project Definition
		1214	Conceptual Alternatives
		1216	Feasible Alternatives
		1217	Near Term Plan
	1220		Prepare Planning Study
		1221	**Prepare ER**
		1222	**Prepare Enviornmental Docs**
	1230	1231	**Public Participation/Outreach** - prepare for and attend informal public mtgs; neighborhood, stakeholder and environmental interest mtgs; public hearings
		1232	Public Participation/Outreach Subtask
	1250		Planning Consultant Administration
		1251	**Engineering Consultant Administration** - selection process, negotiations, managing consultant work
		1252	**Environmental Consultant Administration** - selection process, negotiations, managing consultant work
	1280	1281	**Mitigation & Monitoring Plan** - respond to comments, report preparation
		1282	Mitigation & Monitoring Plan Subtask - respond to comments
	1300		**REGULATORY/ENVIRONMENTAL PERMIT ACQUISITION**
	1320	1321	**Regulatory Agency Permits** - COE, Fish and Game, Regional Water Quality Control Board (RWQCB), US Fish and Wildlife Service, Environmental Protection Agency (EPA), National Marine Fisheries Services NMFS), Bay Conservation and Development Coommission
		1322	Regulatory Agency Permits Subtask - Collaborative Costs
Design Phase	1700	1709	**PROJECT MANGMT-DESIGN PHASE**
	1710	1711	**Project Plan Design** -project plan, work plan, CIP, budget preparation, state subventions & federal cost sharing agreement negotiations
		1712	Project Plan Subtask - Design
	1720	1721	**Project Administration - Design** - progress and owner meetings, scheduling meetings, project filing, agenda coordination
		1722	Agenda Coordination Design
	1730	1731	**Project Control - Design** - status reports, review and code invoices, other financial analysis
		1732	Project Control Subtask - Design
	1750	1751	**Change Management** - Design - prepare budget adjustment and change management documents
		1752	Change Management Subtask - Design
	1400		**DESIGN**
		1408	**QA/QC for Design Phase** - QA/QC of Design Deliverables, Value Engineering
		1409	**Design**
	1410	1411	**Preliminary Design Activities** - design criteria, data collection, research, surveying, HECII, HECRAS
		1412	Preliminary Design Activities Subtask
	1420	1421	**30% Plans/Specifications/Engineering**-typically includes: plan sheets showing existing facilities & utilities, and plan view of proposed project features, ROW hard copy, design alignment, outline of specifications, cost estimate, design calculations, revie
		1422	30% Plans/Specificaitons/Engineering Subtask,
	1430	1431	**60% Plans/Specifications/Engineering**-typically includes: design details, proposed ROW delineated and confirmed, material specifications identified, bid items identified, 1st draft specifications, cost estimate, design calculations, review and comment
		1432	60% plans/specifications/engineering subtask
	1440	1441	**90% Plans and Specifications** -prepare plans and specifications, incorporate comments, cost estimate, design calculations, review and comment
		1442	90% Plans and Specs Subtask
	1450		Utility/Technical Coordination
		1451	**Utility Coordination**
		1452	**Other Technical Coordination**
	1460		Encroachment/Other Permits
		1461	**Other Permits**- City or County Permits, Building permits, etc
		1462	**Encroachment Permits** - determine permit requirements, obtain permit
	1470	1471	**Final Plans & Specifications**-prepare/finalize plans and specifications
		1472	Final Plans & Specifications subtasks
	1480	1481	**Design Consultant Administration**-selection process, negotiations, managing consultant work
		1482	Design Consultant Administration Subtask
	1490	1491	**Advertize & Award** - agenda coordination, pre-bid meeting, PS&E distribution, bid opening & all related const unit activites
		1492	Advertise and Award Subtask

TASK NUMBERS THAT MUST BE USED BY ALL PROJECTS MANAGED BY CPSD

	Rollup No.	TASK No.	*Note: Do NOT charge to rollup numbers.*
	1500	**1509**	**LAND ACQUISITION**
	1510	**1511**	**Right of Way Mapping** - Survey & Mapping Unit labor to define ROW, survey, prepare hard copy, plats, and legal descriptions
		1512	Right of Way Services Subtask
	1520	**1521**	**Real Estate Negotiations** - labor or consultants to obtain land, right of way, and easements
		1522	Real Estate Negotiations Subtask
	1530	**1531**	**Real Estate Costs**-cost of ROW or land, relocation assistance, escrow fees, demolition
		1532	HAZMAT investigation
		1533	HAZMAT remediation--CERCLA
		1534	HAZMAT remediation--non-CERCLA
Construction Phase	1800	**1809**	**PROJECT MANGMT-CONSTRUCTION**
	1810	**1811**	**Project Plan - Construction** -project management plan, CIP, budget preparation
		1812	Project Plan Subtask - Construction
	1820	**1821**	**Project Administration - Construction** - progress and owner meetings, scheduling meetings, project filing, agenda coordination
		1822	Agenda coordination
	1830	**1831**	**Project Control**-status reports, review and code invoices, other financial analysis
		1832	Project Control Subtask - Construction
	1850	**1851**	**Change Management**-prepare budget adjustment and change management documents
		1852	Change Management Subtask
	1600		**CONSTRUCTION**
		1609	**Construction**
		1608	**QA/QC for Construction Phase**
	1610	**1611**	**Construction Administration**-preconstruction meetings, project meetings
		1612	Construction administration subtask
	1620	**1621**	**Inspection**-witnessing and documenting
		1622	Inspection subtask
	1630	**1631**	**Engineering Support**-engineer's review of submittal
		1632	Engineering Support Subtask
	1640		Construction Changes
		1641	**Owner/Operations Requested Construction Changes**
		1642	**Design Errors/Omissions** - Construction changes resulting from design errors, omissions discrepances or Vagueness, Review of RFIs Potential change orders and associated submitals
		1643	**Contractor requested Construction Changes**
	1650		Utility Relocation/Technical Coord
		1651	**Utility Relocation**-cost of contract
		1652	**Other Technical Coordination**
	1660	**1661**	**Construction and Equipment Costs**-cost of contract, including Start up & Testing labor & contracts, Revegetation Contracts
		1662	Construction and Equipment Costs Subtask
	1680	**1681**	**Construction Consultant Administration**-selection process, negotiations, managing consultant work
		1682	Construction consultant administration subtask
Close-Out	**1900**	**1909**	**PROJECT MANAGEMENT CLOSE-OUT**
	1910	**1911**	**Project Close Out**-close agreements & encumbrances, archive files
		1912	Project Close Out Subtask
	1920	**1921**	**Close-Out Data Collection** - Collect project data and enter CPSD database
		1922	Close-Out Data Collection Subtasks
	1930	**1931**	**Post-Construction Activities**-asbuilt drawings, O&M manual/training, claims resolution, FBCO, LOMR
		1932	Post-Construction Activities Subtask

APPENDIX J

Roles and Responsibilities

The Watershed Management Capital Program Unit will be responsible for the overall management and coordination of the project with outside agencies and District staff. A summary of main responsibilities of various units and divisions during the project implementation phase follows. As required by the project funding and implementation schedule, the WMCPU will prepare a project plan for each reach and request budget and resources for implementation. The WMCPU will be responsible for the day-to-day project management, tracking, and reporting project schedule, status, and budget to the project owner.

The project team intends to request other District units to provide staff support during the implementation phase. As the need for specific skill and expertise arises, the project team will prepare necessary work plans, request for resources support, and obtain necessary resources for project implementation. Below is a summary of some main responsibilities of various units and divisions during the project implementation phase.

Capital Program Services Division (316)

Provide regular updates and communicate with Board and District staff on the District Capital Improvement Plan.

Review and approve changes to project implementation strategy, schedule, and budget.

Watershed Management Capital Program Unit (315)

Provide overall management and day-to-day coordination of projects/work that are part of the Upper Guadalupe River Flood Protection Project.

Responsible for ensuring that the District meets its obligations (i.e., LERRD and financial contribution) as the Local Sponsor for the Corps' project.

Responsible for ensuring that the District delivers the Upper Guadalupe River Project as stated in the Clean Safe Creeks Program.

Responsible for budgeting, scheduling, and delivery of project milestones.

Coordinate with the Corps' and outside agencies about permitting, design, and construction of the project.

Coordinate/communicate project issues/requirements/progress with District management and staff.

Structural Engineering Unit (385)

Provide QC review of project design.

Provide engineering support to project teams as requested.

Hydrologic Engineering Unit (355)

Provide QC review of project design.

Provide engineering support to project teams as requested.

Hydraulic Engineering Unit (345)

Provide QC review of project design.

Provide engineering support to project teams as requested.

Process Engineering Unit (375)

Provide QC review of project design.

Provide engineering support to project teams as requested.

Project Management Support Unit (335)

Provide project management support staff to project teams as requested.

Assigned staff will participate as core team members of the Upper Guadalupe River Project.

Guadalupe Watershed Office (271)

Owner of the Upper Guadalupe River Project.

Provide and community owner's requirements to project teams.

Review and approve changes to project implementation strategy, schedule and budget.

Communicate project progress and issues to executive management and Board members.

Provide staff to participate with project teams as necessary and requested.

Public Information Unit (172)

Responsible for developing materials and conducting outreach to community.

Responsible for updating project website.

Community Project Review Unit (233)

Review and provide input to project design and construction.

Review and provide input on cooperative agreements with other agencies on creek maintenance and creek-side trails along the project.

Provide input on private or other agency's projects that may conflict with the Upper Guadalupe River Project.

Ecological Services Unit (236)

Provide inputs on fishery and wildlife protection during the design phase.

Provide wildlife survey as necessary and requested during construction.

Treasury Claims and Reimbursement Unit (678)

Provide guidance on setting up an accounting system to track expenditures that qualify for federal project credit or State Subvention Program.

File claims for credits or reimbursement with federal and state.

Review cost sharing agreements with other agencies.

General Accounting Unit (673)

Review and approve all budget adjustments.

Review and process consultant and contractors invoices.

Review cost-sharing agreements with other agencies.

Construction Administration Unit (845)

Review and comments on plans and specifications.

Coordinate for construction contract advertising and awarding of contract.

Administer construction contract and contractor during construction phase.

Coordinate with Watershed Management Capital Program staff on engineering issues during construction.

Real Estate Unit (865)

Acquire necessary right-of-ways in accordance with the Corps"s construction schedule.

Manage rental properties that have been acquired for the project.

Negotiate right-of-entry and temporary construction easements for the project.

Land Surveying and Mapping Unit (875)

Provide plats and descriptions for property acquisitions.

Provide design and construction control surveying.

Research right-of-way issues and prepare maps.

CADD/Geographic Services Unit (855)

Prepare plans for proposed flood protection improvements.

Prepare necessary maps for the project.

APPENDIX K

Consumer Price Index

U.S. Department of Labor
Bureau of Labor Statistics
Bureau of Labor Statistics Data
www.bls.gov

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Change Output Options: From: 1992 ▾ To: 2002 ▾ GO

☐ include graphs **NEW!** More Formatting Options ➡

Data extracted on: January 31, 2003 (10:20:44 AM)

Consumer Price Index - All Urban Consumers

Series Id: CUURA422SA0
Not Seasonally Adjusted
Area: San Francisco-Oakland-San Jose, CA
Item: All items
Base Period: 1982-84=100

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
1992	140.3	141.0	141.9	141.6	141.9	141.9	142.2	142.7	143.7	144.3	144.2	144.3	142.5	141.4	143.6
1993	145.1	145.5	145.7	146.8	146.9	146.1	146.1	146.2	146.5	147.0	147.2	147.0	146.3	146.0	146.7
1994	147.5	147.4	148.2	148.0	148.3	148.1	148.9	149.4	149.4	149.4	149.8	149.4	148.7	147.9	149.4
1995	150.3	150.5	151.1	151.5	151.3	151.7	151.5	151.5	152.3	152.6	152.4	152.1	151.6	151.1	152.1
1996	152.9	153.2	152.9	153.9	155.1	155.2	155.9	155.6	156.3	156.9	156.9	156.0	155.1	153.9	156.3
1997	157.0	157.9	159.2	159.6	159.8	160.0	160.6	161.2	161.6	162.5	162.6	162.6	160.4	158.9	161.9
1998		163.2		164.6		165.5		166.6		167.2		167.4	165.5	164.2	166.9
1999		169.4		172.2		171.8		173.5		175.2		174.5	172.5	170.8	174.2
2000		176.5		178.7		179.1		181.7		183.4		184.1	180.2	177.7	182.6
2001		187.9		189.1		190.9		191.0		191.7		190.6	189.9	188.7	191.1
2002		191.3		193.0		193.2		193.5		194.3		193.2	193.0	192.3	193.7

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Data questions: **blsdata_staff@bls.gov**
Technical (web) questions: **webmaster@bls.gov**
Other comments: **feedback@bls.gov**